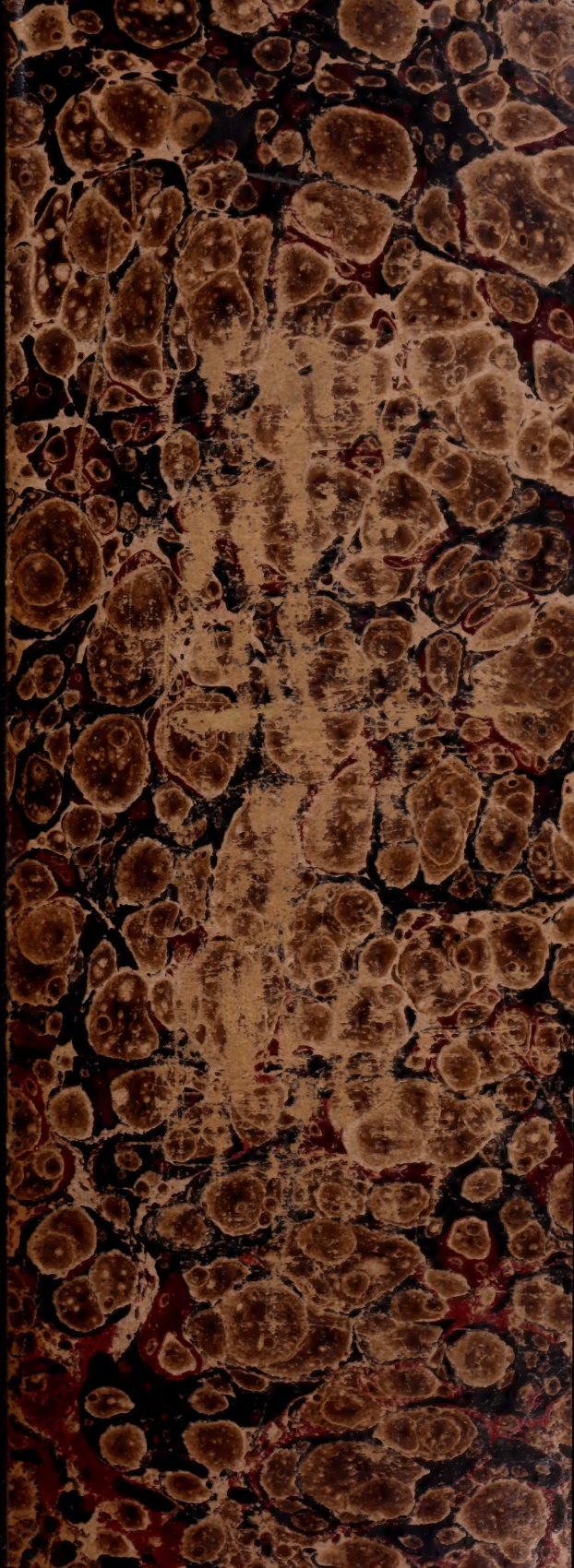

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VOL. XXII. [Whole Number, 253.] No. 1

RICHMOND, APRIL, 1895.

VIRGINIA MEDICAL MONTHLY.

LANDON B. EDWARDS, M. D.,
EDITOR AND PROPRIETOR.

COLLEGE OF PHYSICIANS OF PHILADELPHIA. LIBRARY. JUN 26 1898

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CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Cataract Extraction—Results and After-Treatment of, as Exemplified by Cases Operated on during the Meeting of the Medical Society of Virginia Also Operations for Tarsal Cyst, Pterygium and Ectropion. By JOSEPH A. WHITE, A. M., M. D., Richmond, Va. 1

ART. II.—A Plea for Vaccination. By GEORGE MARTIN KOBER, M. D., Washington, D. C. 10

ART. III.—Eruptions Following Vaccination. By JOHN E. WALSH, M. D., Washington, D. C 24

ART. IV.—A Study of Cellular Inflammations with Special Reference to Pelvic Disease in Women. By W. H. RIBBLE, JR., M. D., of Wytheville, Va. 36

ART. V.—The Prognostic Value of Examinations—Abdominal, Vaginal and Pelvic—Before Labor. By W. A. H. COOP, M. D., Laurenceburg, Tenn. 46

ART. VI.—Eczema of the Legs. By J. ABBOTT CANTRELL, M. D., Philadelphia, Pa. 51

ART. VII.—Foreign Bodies in the Larynx and Trachea, with Report of a Case Relieved by Tracheotomy. By ROBERT GLASGOW, M. D., Lexington, Va. 55

ART. VIII.—The Treatment of Hæmorrhoids. By H. R. COSTON, M. D., of Fayettesville, Tenn 59

ART. IX.—Circumcision—Short Review of the Origin and History of this Custom. By EDWIN L. MORGAN, M. D., Washington, D. C 63

ART. X.—Immunity. By MARK W. PEYSER, M. D., of Richmond, Va. 75

CLINICAL REPORTS 84

DEPARTMENT OF EYE, EAR, THROAT AND NOSE. Conducted by JOHN DUNN, M. A., M. D., of Richmond, Va. 91

DEPARTMENT OF GENERAL SURGERY. Conducted by STUART MCGUIRE, M. D., of Richmond, Va 102

DEPARTMENT OF SKIN, VENEREAL AND GENITO-URINARY DISEASES. Conducted by BERNARD WOLFF, M. D., of Atlanta, Ga. 112

DEPARTMENT OF ELECTRO-THERAPEUTICS. Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va. 115

PROCEEDINGS OF SOCIETIES, BOARDS, ETC. 121

BOOK NOTICES 127

EDITORIAL 132

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 1. WHOLE NUMBER, 253

RICHMOND, APRIL, 1895.

Original Communications.

Art. I.—Cataract Extraction—Results and After-Treatment of, as Exemplified by Cases Operated on during the Meeting of the Medical Society of Virginia. Also Operations for Tarsal Cyst, Pterygium and Ectropion.*

By JOSEPH A. WHITE, A. M., M. D., Richmond, Va.

Professor of Ophthalmology, and Associate Professor of Otology, Rhinology and Laryngology, University College of Medicine, Richmond, Va.

At the clinic to-day I will show you an operation for removal of tarsal cysts, another for removal of pterygium, and a third for remedying the deformity caused by turning out of the eyelid, or ectropion.

Before proceeding, however, to this operative work, I wish to show you the result of five cases of senile cataract here present, and which were operated on during the meeting of the Medical Society of Virginia, before the class and visiting members of the Society.

On October 23d we operated on Mrs. Price, of Fluvana county, Va., aged 79, by simple extraction; on October 24th on twin sisters, Mrs. Honaker and Mrs. Shepard, from

* Clinical Lecture delivered at the University College of Medicine on November 8, 1894.

19493

Radford, Va., each aged 52, by simple extraction; on October 25th upon Mr. Thomas Viands, of Luray, Va., aged 72, by extraction with iridectomy, and also on same date Lewis Armistead, colored, aged 68, of Radford, Va., by extraction with iridectomy.

Mrs. Honaker and Mrs. Shepard, as I have said, are twins, and, curious to relate, they seem to have had the same thing happen to them at the same time all through their lives. They were married on the same night, each to a widower with the same number of children, and neither has ever had a child of her own. Both began to go blind in the right eye about two years ago; both came here perfectly blind in that eye, and were getting blind in the left; both were operated upon the same day, with a very slight difference in the operations, and both have gotten the same result. During the same period of healing, if one had a pain the other had it; it did not make any difference where the pain was—when one had it, the other always had it. It has been suggested that I might have experimentally treated one only for the pain, to see if it would cure the other, but I have not had an opportunity since this was suggested to me. Altogether, this history shows a curious relationship even between twins.

In all of these cases, except one, there has been a perfect healing of the wound, perfect restoration of the anterior chamber, and perfectly clear black pupils. In two of the three cases of simple extraction, the pupil is round, and in one (Mrs. Shepard) it is slightly oval, due to the fact, which you may recollect, that during the operation the iris fell across the knife, which excised a small piece from the upper margin of the pupil. This, however, did not interfere materially with the healing nor with the visual result. Although it is a little early to determine what the ultimate vision will be, as these patients are going home shortly, I wished the class to see what immediate results followed the operative interference and after-treatment instituted in these cases of blindness.

With these test-types at twenty feet, and the lenses which

will be adjusted for each patient from the case of test-lenses, you can see for yourselves what they can read at that distance. They were all blind, as you know, and now, even at this early date, they have vision equal to $\frac{20}{30}$ or $\frac{20}{40}$, which is very remarkable so soon after the operation.* It is not necessary to give you the exact formula for the lenses used in each case, but you may have observed that all of them required two lenses before each eye—the one being a spherical, and the other a cylindrical lens, the spherical lens being used to compensate for the loss of the crystalline lens which we removed in the cataract extraction; the cylindrical to correct the astigmatism, due to alteration of the corneal curvature by the wound. This lens is now much stronger than it will be later on when more perfect healing and cicitrazation has taken place.

Usually there is a considerable amount of astigmatism shortly after the operation, which gradually grows less and less, until in many cases it is reduced from as much as four or five dioptrics to a half dioptric, or none at all. Consequently, if I were to prescribe for these patients the glasses which to-day have given such an apparently good result, they would have to change them in about two or three months, because their vision with the glasses would be steadily growing worse all the time, although in reality it might be getting better—the apparent "worsening" being due to the glasses becoming unsuitable as more perfect healing took place. Therefore, in adapting glasses after cataract extraction, it is better to do so from six to ten weeks after the operation.

In all the cases of simple extraction, I removed the anterior capsule with the forceps, but when doing so I told you that a simple T shaped opening of the anterior capsule might answer as well, and was moreover easier of performance; but that, if we removed the whole of the anterior capsule, there was not much doubt about the subsequent condition of the pupil, provided you get a satisfactory recovery, and hence my preference for it. This may account

* Three of these cases subsequently got $\frac{20}{15}$ and one $\frac{20}{20}$, or perfect vision.

for the clear black pupils, which will obviate the necessity of a secondary needle operation, although in the case of Mr. Viands, where we did an iridectomy with a peripheral opening of the capsule, there has been an equally good result. He had lost one eye years ago, and only recently became blind in the other. He was 72 years of age, with but one eye, in which was a cataract with a very large nucleus; in fact, there was hardly any cortex at all, the whole crystalline lens having become sclerosed and of a dark amber hue, but the pupil was more or less rigid, not dilating freely under a mydriatic. I therefore decided not to perform a simple extraction, but to do an operation with iridectomy, as I considered he would have a better chance of perfect recovery if I did an iridectomy than if I attempted to extract such a large nucleus through such a rigid iris without one.

I did a large corneal section, with a very small iridectomy, and a peripheral opening in the capsule, had an easy delivery of the lens, and rapid and uninterrupted healing. Although the anterior capsule was opened only peripherally in this case, we have as clear and black a pupil as in the cases in which it has been entirely removed; but this, in my opinion, was due to the fact that there was no cortical substance to this cataract—nothing that could stick to the inner face of the capsule to cloud it. Of course, this makes a difference, because had there been much cortical substance, and had there been any difficulty in getting it out of the capsule in making the toilet of the eye, there would have been much more chance of clouding, thus necessitating a secondary operation, than if the anterior capsule had been removed.

This colored patient, however, does not exhibit as good results, but exemplifies some of the uncertainties attending both operations for cataract, and the subsequent healing. He was sent to the Eye, Ear and Throat Infirmary by the Hon. Hoge Tyler, late Lieutenant-Governor of the State, who was very much interested in having his vision restored. He had been blind a long time, the cataract was hypermature, with a very small nucleus, and broken down cortex. I con-

cluded it would be a very good case for simple extraction, as the pupil seemed to act fairly well, and attempted the operation in that way. You will recollect that as soon as I made an opening in the capsule, a dirty looking semi-fluid mass (the broken down cortex) passed out of the eye, whilst the nucleus disappeared up and behind the iris. In spite of all efforts to the contrary, I could not make it pass through the pupil and out through the corneal section, but was compelled to do an iridectomy in order to deliver the nucleus, which was then successfully accomplished.

This prolonged manipulation of the eye, and the irritation set up by the repeated attempts to dislodge the nucleus resulted in two conditions which have materially interfered with the result. One was secondary iritis; the other was some interference with the nutrition of the wound, which prevented healing. At this time, two weeks after the operation, you will see that the wound has not yet cicatrized; there are one or two adhesions of the iris to the capsule, and some cloudy spots in the pupillary space due to irritation of cortical remnants in apposition with the anterior capsule. The iritis has subsided, but the slow healing of the wound still causes trouble. Whilst I do not anticipate any very serious termination to this case, as it now presents a favorable outlook, I have seen eyes lost as the result of protracted healing of the wound, without any other apparent complication. A wound which persistently refuses to unite, exposes the eye to constant danger of infection, and may end sometimes in suppuration, sometimes in cyclitis.

I am very glad to present this patient to the class, because more can be learned from a case not doing well, or having secondary complications following an operation, than from any number of cases that make uninterrupted recoveries. During the last session, all the cases of cataract operated on before the class were fortunate enough to make rapid and complete recoveries, with restoration of vision, just as the other four cases here presented have done. Some of them last year had more or less clouding of the capsule, and required a secondary operation of making an opening

in the capsule with the cutting needle. Whilst I have done this a great many times, I would prefer never to have it to do; for although I have never lost an eye as the result of it, there are sufficient risks entailed by the operation to avoid it if possible. It is well known that glaucomatous symptoms may develop consecutive to it which may necessitate an iridectomy for their relief, and that even panophthalmitis has resulted, due to introduction of micro-organisms during the operation. This latter danger, however, can be avoided under careful antiseptic precautions.

In all probability we will have to do a secondary needle operation in the case of this colored patient when the wound heals and the irritation has subsided. When necessary, it should be done as soon as possible after the cataract extraction, because the longer we wait the tougher the capsule becomes, and the more unsatisfactory is the opening made in it.

You have all seen the methods of operating for cataract, and the precautions taken during its performance. The patient is brought into the hospital the day before. The eye and its surroundings are carefully examined to see if there is any trouble with the eyelids, conjunctiva or lachrymal apparatus, because no operation is ever performed when an eye has any muco-purulent or purulent secretion from any of these parts. The patient's face is thoroughly washed, the eye rendered aseptic with a solution of bichloride of mercury 1 to 2,000, and afterwards a little of a salve, composed of one part of bichloride and 3,000 parts of vaseline, is introduced into the conjunctival sac, and the eye bandaged up. In this way the conjunctiva is rendered as aseptic as possible. All instruments to be used are thoroughly sterilized and put in alcohol or a weak carbolic acid solution. During the operation they are dipped in a solution of bichloride 1 to 2,000.

Whilst the preference is given to simple extraction in suitable cases, iridectomy is always done where indications call for it. The anterior capsule is opened peripherally with the cystotome when an iridectomy has been done, or re-

moved with capsule forceps, in simple extraction; sometimes a T shaped opening is substituted for the latter. A speculum is used during the first parts of the operation, but the lens is removed and the toilet is finished by pressure through the lids. As soon as the toilet is finished, in cases of simple extraction, I wait awhile to see if there will be any prolapse of the iris. If it does prolapse I cut it off, because I have found by experience that, after it has been put in position and prolapses, it will prolapse again. Sometimes I close the lids with a light strip of silk ising-glass plaster, over which I put a pad of absorbent cotton, held in position by plaster strips. Sometimes I dispense with the plaster on the lids and apply a pledget of absorbent cotton which has been dipped in a bichloride solution, and over that apply the wadding and plaster strips. Both eyes are closed.

I think the advocates of closing simply the operated eye have not demonstrated that this method offers any special advantages. On the contrary, I believe it exposes to the risk of loss of the eye. The patients are kept quietly in bed for forty-eight hours. Obstreperous and intractable patients are handcuffed, but the ordinary run of cases suffer no restraint, save confinement in bed. After forty-eight hours I usually open the eye and examine it with strict antiseptic precautions. At this time I always allow the patients to sit up in bed. On the third or fourth day they sit up in a chair with the sound eye released, but I don't allow them to move about the room until the sixth or seventh day, nor do I remove the bandage entirely from the operated eye until after the eighth day. I have seen an eye lost by infection of the wound from exposing the eye to atmospheric influences as late as the *seventh day*, and where you are trying to restore sight to the blind, it is best to err on the side of prudence. On the third or fourth day after the operation, I usually instil a drop or two of a 1 per cent. solution of atropia, to prevent adhesions between the iris and capsule, which occur sometimes, as the result of a mild and unobserved iritis, without marked symptoms.

All of our operations are done under cocaine. We use a 4 per cent. solution—putting one drop into the eye, and after five minutes a second drop, almost immediately after which we proceed with the operation. If cocaine is used in excess for the purpose of producing local anæsthesia, you may often find it brings about trouble in the delivery of the lens from lowering the tension of the eye.

The methods of operation and treatment I have described to you have been pursued at the Richmond Eye, Ear and Throat Infirmary for some years past, and have been productive of such satisfactory results that in several hundred operations we have only had a failure of about 1 per cent., *i. e.*, 99 cases in every 100 have been restored to sight.

You will observe in the cases here presented that the great difference in age made no material difference in the results—that the patient 79 years of age got an equally good result with the patients 52 years of age. Of course this does not always obtain, because the younger a patient is the more certainly will they get a good result in cataract extraction, everything else being equal; but we have here sufficient evidence that age is no bar to the operation, that the oldest person blind with cataract may expect as good a result, although the chances for that result may not be as great, as a person 20 or 30 years younger.

A few words more and we will proceed to do the operations for tarsal cyst, pterygium and ectropion.

I have submitted to you in these cases both *simple extraction* and *extraction with iridectomy.* A few years back, simple extraction was done by very few ophthalmic surgeons; to-day the tendency is more and more to this method of operating. It is undoubtedly the operation that, when perfectly successful, gives us an ideal result; because there is no mutilation of the iris, and with a perfectly clear round pupil it would be difficult for an observer to say whether an eye had been operated on or not. At the same time that there is this tendency to give up iridectomy, and that the more expert operators who have worked in this line always do a simple extraction, unless there are very decided indi-

cations for an iridectomy, I do not think it is wise for beginners to attempt this mode of operating, because it is unquestionably much more difficult of satisfactory performance, and exposes the eye to greater risks of loss, except in the hands of an expert, than an operation with iridectomy. It requires a larger corneal section, greater dexterity on the part of the operator in delivering the lens, and making the toilet, with consequently greater risk of rupturing the hyaloid, and moreover, secondary danger of prolapse of the iris.

We have not time to go into all the pros and cons of simple extraction or extraction with iridectomy, but I would decidedly recommend to the beginner, whenever he attempts a cataract extraction, to make a corneal section, *with a small iridectomy* and a peripheral or central opening in the capsule with the cystotomy, because this method of operating makes the extraction of the lens and the subsequent toilet much easier for the operator, and exposes the patient to less danger of loss of the eye, and necessitates less after-attention. It is true that you might have implication of the capsule itself in the wound preventing healing, but this is not a common occurrence. You may also have a slight prolapse of the cut edges of the iris in the wound, but this is also less common than prolapse in simple extraction, and less dangerous to the integrity of the eye. When trying to restore sight to a blind person do the operation that will give him most chances, *i. e.*, the one easiest of performance and surest to avoid complications in the healing. Vision and not a pretty eye is his quest. When you become expert enough to do so, you can attempt any method of operating, but wait until you are sure of yourself and your hand.

200 *East Franklin Street.*

[To be Concluded in May Number.]

Art. II.—A Plea for Vaccination*.

By GEORGE MARTIN KOBER, M. D., Washington, D. C.

A plea for vaccination in this enlightened age may indeed seem unnecessary; but judging from a recent article in the *North American Review* "On the Dangers of Vaccination," it would appear that the great value of Jenner's discovery is even underrated, and positively misrepresented by some medical men. The people have a right to look to the medical profession for advice in matters affecting public health, and as such statements carry great weight, all the facts should be fairly presented.

Having recently passed through a local epidemic of small-pox in California, in which the protective influence of vaccination was clearly demonstrated, the subject is to me one of striking interest; and I feel, therefore, tempted to offer what evidence my library affords on a question of vital importance to the human race. In order to appreciate the achievements of Jenner's discovery—of which Cuvier has said, "If vaccination was the only discovery of the epoch it would serve to render it illustrious forever" it is desirable that we should know something of the nature, history and ravages of small-pox.

The disease (variola) may be briefly *defined* as an acute, specific, infectious or communicable disease, and one of the most formidable and loathsome of all the eruptive fevers. Just when, where and how small-pox originated is not known; but there is every reason for believing that it depends upon the invasion of a living germ, capable under suitable conditions of proliferation in the system, and not upon any poison in the ordinary sense of the term. A poison may produce sickness, or even cause death; but it cannot infect, because it cannot reproduce itself. *Varioloid* is a milder manifestation of the disease, differing in degree, but not in kind.

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* Read before the Medical and Surgical Society of the District of Columbia February 4th, and before the Anthropological Society February 16, 1895.

Whilst the specific germ of small-pox has not yet been demonstrated, we know that the disease is communicable from the earliest appearance of the symptoms; that the infectious principle is contained in the exhalations of the patient and in the skin eruption, and may be conveyed for considerable distance through the air in the direct epithelial scales and pus cells from the crusted pocks. The virus also clings to the walls, furniture, bedding, clothing and other effects, and has been transmitted in letters, books and other mail matter. (*Sergeant's Sanitary Record*, January 15, 1884). The following history of a recent local epidemic of small-pox shows how the germs may be carried from one part of our continent to another—several thousand miles distant. In April, 1894, information reached me of the occurrence of small-pox at Cedarville and Willow Ranch, two hamlets fifty miles apart, and this was especially remarkable, as no case of small-pox had been reported to the State Board of Health of California for over twelve months, and small-pox had never prevailed in the county since its settlement. Upon inquiry as to the probable source of infection, Dr. Pleasants writes me as follows:

"Mrs. B——, of Lakeview, Oregon, while returning from a visit in the East, accompanied by her aged father, remained over night at the Willow Ranch Hotel March 31st, having stopped the previous night at the 'Olinger House' at Alturas. They came via Reno, Neo and Amedee; thence by stage 150 miles, and would have remained longer at Chicago had it not been for the small-pox they found there, though neither person had actually contracted the disease. The old man being feeble, the proprietor and wife gave him their room on the first floor. The next evening—April 1st—a woollen mitten was found in the room, and recognized as belonging to the old gentleman. All made remarks about the mitten; all tried on the mitten, and a young man (brother-in-law of the proprietor) pocketed the mitten as a lucky find."

Twelve days later, the usual period of incubation, the first symptoms of small-pox appeared in these three persons, and from these the disease spread to thirteen families, with forty-five cases and two deaths, including the young man

at the hotel. The first case at Cedarville occurred in the person of a young man who had stopped at the Olinger House (Alturas) March 30th, and was presumably infected from the same source.

The Early History of Small-pox is shrouded in considerable obscurity; whilst some medical historians recognize the description of Moses of the "plague of boils and blains," and the plague of Athens, described by Thucydides as referring to small-pox. It is said that Ahroon, an Alexandrian priest who lived in the early part of the seventh century, first described the disease. Rhazes, an Arabian physician who practiced at Bagdad early in the tenth century, furnished an accurate description, but as he quotes predecessors, one of whom flourished A. D. 622, the disease probably prevailed in the Orient from remote antiquity.

It is claimed that small-pox appeared in France as early as A. D. 520; but the more general belief is that it was brought to Spain by the Saracens about the year 710, from whence it spread, especially during the Crusades, all over Europe, but sparing such isolated countries as Norway and Denmark until about 1527. "In 1707 in Iceland 18,000 people died from small-pox in one year, the entire population being but 50,000. Seventy per cent. of the people of Greenland perished from the disease in 1734." It was carried from Europe to San Domingo in 1517, and reached Mexico in 1520, where, according to Robertson, it destroyed three-and-a-half millions of people. It appeared in Brazil in 1563, and in Maryland in the early part of the seventeenth century, having been brought there by an English ship; from here it spread rapidly through Virginia, the Carolinas and other colonies. According to Dr. Doty (*N. Y. Medical Record*, December 9, 1893), of 5,756 burials in New York city between the years 1785 and 1800, 610, or one-tenth of the entire number, died of small-pox. Prof. Niemeyer says: "In the last century one tenth of the population died of small-pox, or about 400,000 people every year in Europe; another tenth were disfigured by the disease." The *N. Y. Medical Record*, July 14, 1894, claims "that fifty mil-

lion people died in Europe from small-pox during the eighteenth century." Indeed, so frightful was the loss of life and sight at all times, that much thought was given to the discovery of preventive measures. We are informed that the priests of India had learned from observation that an accidental inoculation of a wound with the virus of small-pox resulted in a milder type of the disease, which secured immunity from a subsequent severe attack; and thus the intentional inoculation was practiced, according to Dr. Collinson, by the Chinese in the sixth century, and the Brahmins from a very remote antiquity. This process found ready adherents among the Caucasian tribes, and was introduced from there into Constantinople, where Lady Mary Montague first witnessed its remarkable success. This sensible woman in a letter written in 1717 urged its adoption in England, and upon her return four years afterwards had her daughter publicly inoculated; the experiment was also performed on six condemned criminals, and after the successful inoculation of two royal children the practice became firmly established, with the result that the mortality of inoculated small-pox was only from 2 to 3 per cent., instead of 20 or 30 per cent. from natural small-pox. It was found, however, that cases thus inoculated became a centre of infection, and epidemics correspondingly more numerous.

In the meantime the observation had been made, that in Gloucestershire persons engaged in milking often contracted on their hands cow-pox—an eruptive disease on the udder of the animal. This disorder had never proved fatal in man, and it was a matter of tradition that persons once the subject of cow-pox were secure against the infection of small-pox; indeed, it is claimed that two laymen, Jesty and Plett, resorted to intentional inoculation of cow-pox. Be this as it may, it was Edward Jenner who received his first inspiration whilst a surgeon apprentice, between 1663–70, at Soulbury, from the remark of a young country-woman, "that she could not take small-pox, because she had already had cow-pox." It was Jenner, who, instead of treat-

ing the matter as a vulgar error, founded upon superstition or credulity, commenced a pains-taking examination; and having satisfied himself of the protective influence of this virus against small-pox, he experimented upon his own son, a boy under six years of age. During all this time, we are told by his biographers, that he met with little or no encouragement from his professional brethren, and was even forbidden to discuss the subject at their regular meetings under penalty of expulsion. In the meantime he determined to his own satisfaction that cow-pox once implanted in the human subject could be transmitted from one individual to another; and this was all the more gratifying, as he had observed that frequently for years together the disease disappeared from the cattle.

On the 14th day of May, 1796, Jenner vaccinated James Phipps, a boy eight years of age, with virus taken from a pustule on the hand of a milkmaid, who had been infected by her master's cow. On July 1st this boy was inoculated for small-pox, and, as Jenner had predicted, without the slightest effect. This inoculation was repeated twenty times with the same negative result. In 1798, after two years additional experiments, Jenner went to London to present his system of vaccination to the Profession, and urge its general adoption. Instead of receiving an important hearing, "the discoverer was accused of an attempt to bestialize his species by introducing into their system diseased matter from a cow's udder; vaccination was denounced from the pulpit as diabolical," and other monstrous statements were circulated and believed. He returned home, and in the same year published his first memoir, "Inquiry into the Causes and Effects of the Variolæ Vaccinæ," in which he gave the details of sixteen cases of the casual and seven of the inoculated disease. The evidence presented was so conclusive that it could not fail to challenge the attention of the Profession, and within a year after several vaccinations had been performed by Surgeon Cline and others in London, in spite of the former opposition, seventy-three of the most eminent practitioners of London signed a declaration

expressive of confidence in his discovery. His system of vaccination was speedily adopted all over the civilized world; Dr. Waterhouse introduced it in Boston in 1800, and Dr. Seaman into New York in May, 1801. The President received some virus from Dr. Waterhouse which Dr. Grant, of Georgetown, used in 1801.

In 1802, Parliament voted Jenner a grant of £10,000, and in 1807 a second grant of £20,000. Jenner died at Berkeley in February, 1823, and in 1858 a public statue in his honor was erected in Trafalgar Square, London. Jenner believed that small-pox in man and cow and horse-pox were essentially the same disease; and the experiments of Ceely, Badcock and others, who induced vesicles by inoculating cows with small-pox virus and thus claimed to have obtained a supply of genuine vaccine lymph, would appear to place the identity of the diseases beyond all question. But after all, the evidence is conflicting, and there is certainly a radical difference in this, that vaccinia, unlike small-pox, has never proved infectious; that is to say, it has never been transmitted to man in any other way except by direct inoculation. Numerous investigators are at work all over the civilized world endeavoring to isolate the microbes of vaccinia and small-pox; and the gratifying announcement was made to the Medical Congress in Washington in May, 1894, that the late Dr. Martin, of Boston, had actually isolated the bacillus of vaccinia, but so far his experiments have not been verified. If future researches should establish the identity of the two diseases, it will doubtless be also demonstrated that the germ of small-pox undergoes a decided modification as regards virulence and infectious properties in its passage through the cow. In the meantime we simply know, that vaccination is the process by which the specific principle of vaccinia or cow-pox is inoculated into the human system with a view of protecting the person from an attack, and especially from a severe and fatal attack of small-pox. In brief, it is the substitution of a lesser for a greater disorder.

Let us see in how far the correctness of this proposition

has been demonstrated. The statistics of England show that in the last half of the eighteenth century, out of every 1,000 deaths from all causes—ninety-six—nearly one-tenth—occurred from small-pox. In the first half of the nineteenth century the number was reduced to thirty-five; and since 1853, when vaccination became compulsory for all children above the age of three months to the present time, the average proportion of deaths from small-pox has been reduced to ten per one thousand, or one one-hundreth, from all causes; and it was also shown that the reduction was most marked in children under the age of ten.

When vaccination was first introduced, it was believed that it would afford complete and permanent protection from attacks of small-pox; but a number of physicians as early as 1820 realized, however, that the protective influence of the first vaccination disappeared to a large extent after the age of fifteen, and that re-vaccinations could be made successfully, which in turn afforded renewed protection.

The question is justly asked, *For how long a period does the protecttve influence of vaccination last?* This is a difficult question to answer; it naturally varies with different individuals; and this is equally true of the immunity secured by an attack of small-pox and other infectious diseases. Whilst in most persons one attack of small-pox offers protection from a second attack, there are yet exceptional cases on record in which even a third attack has proved fatal. Nevertheless, from a vast amount of statistical material the conclusion has been reached, *that the protective influence of primary vaccination extends from the first to the twelfth year.* Accordingly, the German law of 1874 compels re-vaccination at the completion of the twelfth year; and now what has been gained by this enactment? The statistics of Prussia, from 1816 to 1874, show that from 7.32 to 11.86 per 100,000 of its inhabitants died annually from small-pox; and since the enactment of compulsory vacination laws the mortality from that disease has been reduced to 0.34–3.62 per 100,000—and there has not been a single death from small-pox in the Prussian army since 1875, whilst the Aus-

trian army still furnishes a mortality of from 10–47 per 100,000, and the French army 2–27 per 100,000. [Uffelman's *Hygiene*, 1890.]

Not a single case of small-pox occurred in the British army during 1890, as the result of re-vaccination. The New York *Medical Record* of November 7, 1891, reports 25,000 deaths during a recent epidemic of small-pox in Guatemala. The same journal, May 30, 1891, says: "In Germany vaccination is compulsory; in France it is not. In Germany, the total mortality in the entire country from small-pox was 168. In Paris alone during the same year it was 382. In Alsace the annual mortality per 100,000 from small-pox has fallen since the annexation of the province to Germany from 2.14 to 0.22. The citizens of Zurich voted to do away with compulsory vaccination in 1883. The number of deaths from small-pox in 1882 was 3; in 1883, 8; in 1885, 52; and in 1886, 85." During our Civil War not less than 18,952 cases of small-pox with 7,058 deaths were reported in the United States army; and I am happy to state, upon the authority of Dr. Robert Fletcher and Surgeon Charles Sencock, that during the past ten years there were only three deaths from small-pox in the United States army.

If these figures do not present evidence of the protective influence afforded by vaccination and re-vaccination, then, indeed, "logic and reason are mere accomplishments."

Whilst re-vaccination at the age of twelve confers almost absolute immunity from small-pox for the remainder of life, in view of the exceptional cases already referred to, re-vaccination should be performed during local small-pox epidemics; and this is the practice in vogue in our own army and navy, and many foreign services.

There is every reason to believe that a great deal of careless work has been done in vaccination. How can we expect protection from a spurious or irregular kind of vaccination; and unless the physician satisfies himself by a personal inspection as to the character of the vesicle, we must

expect to hear of cases of small-pox after recent vaccination, so triumphantly pointed out by the opponents of the system. Mr. Marson's statistics of the small-pox hospitals in London, based upon 5,000 cases, show that whilst the death-rate of natural small-pox is 35.55 per cent. and that of post-vaccinal small-pox is but 6.56 per cent., yet even this difference only conveys a feeble idea of the protection of vaccination, if *properly* done; for in nearly all the fatal cases the vaccination was found to have been of an imperfect character. Mr. Marson's observations extended over twenty years, and the analysis of 5,000 cases is given as follows:

Classification of Patients affected with Small-Pox.	*Number of Deaths. Per cent. in each Class.*
(1.) Unvaccinated	35.00
(2.) Stated to have been vaccinated, but having no cicatrix	23 57
(3.) Vaccinated:	
(*a*) Having one vaccine cicatrix	7.73
(*b*) Having two vaccine cicatrices.	4 70
(*c*) Having three vaccine cicatrices	1 95
(*d*) Having four or more vaccine cicatrices.....	0.55
(*a*) Having well-marked cicatrices...	2.52
(*b*) Having badly marked cicatrices.	8.82
(4.) Having previously had small-pox.....	19.

Dr. MacCombies' statistics of 11,724 cases of small-pox treated in the Metropolitan Asylum Hospitals during the years 1871–8, and copied likewise from *Quain's Medical Dictionary*, 1884, further illustrate this point.

		Cases.	Deaths.	Mort. Per cent.	Marson's mort., per cent., corrected to include antecedent and superadded disease.
One mark	Good	1,095	70	6.4	5.2
	Indifferent.	2,004	341	16.7	13.8
Two marks	Good	1,461	54	3.7	3.6
	Indifferent	2,476	279	11.2	9 9
Three marks	Good	1,095	41	3.7	2.2
	Indifferent	1,778	133	7.4	4.1
Four marks	Good	826	23	2.7	0.55
	Indifferent	949	46	4.8	1.6
	Total..	11.724	987	8.1	6.6

These tables show it to be the imperative duty of every

vaccinator to examine his subject between the 6th and 8th day after a primary vaccination, and if he fails to find at least four perfect vesicles, to re-vaccinate on the spot.

There are, of course, a limited number of persons who are not susceptible to vaccination, but statistics show that 96 per cent. of primary vaccinations with humanized lymph are successful, whilst the failures with animal lymph are slightly greater. I have learned from observation that some subjects are more susceptible to one or the other kinds of virus, and if animal lymph failed, I have succeeded with virus direct from the arm or vice versa.

Dangers of Vaccination.—Much has been said and written on this subject, and whilst there is a natural disposition on the part of mothers and the opponents of the system to refer every ailment from which the child suffers soon after vaccination to this cause, yet there are dangers which should be pointed out and prevented.

1. *Syphilis.* There is undoubted evidence that in 1861, in the District of Piedmont, forty-six children were attacked with syphilis, and that they were all vaccinated directly or indirectly from a single child, who was subsequently proved to have contracted the disease from a wet nurse; it was also shown that these children communicated the disease to a number of mothers, wet nurses, and even playmates.

Bohn, Vicennois and Köbner refer to over 500 cases of this lamentable occurrence. But notwithstanding these facts, why should we decry Jenner's discovery, when we really have to deal with criminal carelessness! Since the almost universal employment of animal lymph, this danger has become so remote that we should not cause fear on the part of the public by referring to it; and whenever it becomes necessary to use humanized virus, the conscientious and competent physician will certainly see that the supply is taken from a perfectly healthy source. In view of the fact that millions of children (one and one-fourth million alone in Germany) are vaccinated annually, it is surprising that such consequences are not more frequent; and if the facts could be known, it would doubtless be shown that the in-

stances of transmission of syphilis by means of public eating and drinking utensils, dental and surgical instruments, the act of kissing, and even by the communion cup, are infinitely more numerous.

2. *Erysipelas.*—This must also be recognized as a formidable complication of vaccination, and has doubtless caused a number of deaths and corresponding injury to the reputation of vaccination. When it is remembered that erysipelas is a microbial disease, that the germs are frequently found in the air, or clinging to the skin, fingers, nail-dirt or clothing of the vaccinifer and operator, and that in susceptible subjects it simply requires a slight abrasion of the skin for the invasion and multiplication of these germs; when we further remember the numerous cases of blood-poisoning recorded from the prick of a pin, needle, unclean slivers and protruding pecks in foot-wear, the influences of erysipelas, after vaccination, will be regarded as happily rare. In the cases where the lymph or operation can be justly accused, the symptoms will appear within the first few days, whilst the infection conveyed in clothing or scratching usually manifests itself between the ninth and tenth day, or even later.

3. *Tetanus, Tuberculosis, Scrofula, Leprosy,* and *Skin Diseases.*—It has been claimed by the opponents of vaccination that there is danger of causing *lock-jaw*, and medical literature points to a half dozen cases in which this complication was observed (*N. Y. Med. Record*, April 7, 1894); but there are infinitely more instances of infantile tetanus on record which were traced to the division of the umbilical cord.

The question as to the transmissibility of *tuberculosis* in vaccination has been, and is still being, investigated by competent bacteriologists, and so far the results must be very discouraging to the anti-vaccination party. Meyer, Acker, Straus, Wickel, and Peiper vaccinated forty-five tuberculous persons; the sputum of all contained tubercle bacilli; in forty-four of the cases the lymph from the vesicles was carefully examined and found to be free from

bacilli. From these forty-four cases, thirty-eight animals were inoculated without causing local or general tuberculosis.

The experiments of Touissant and Josserand, who vaccinated fourteen rabbits and guinea pigs (from a tuberculous cow and one bull), of which five became tuberculous, are regarded by Dr. Reed, U. S. Army, a very competent authority, as open to grave criticism. (*Food*, July, 1894.) At the Congress for the Study of Tuberculosis, held at Paris in July, 1891, M. Bernheim presented the results of experiments which he had made to determine whether bovine virus ever contained tubercle bacilli, and whether vaccination could give rise to tuberculosis. His conclusions were, that vaccination was, in general, inoffensive; but in order to remove all possibility of danger, he thought it would be better always not to employ any bovine virus for vaccination until the calf had been killed and had been shown by post-mortem examination to be free from any tuberculous lesions. So far, there is no clinical evidence to show that tuberculosis or scrofula has ever been transmitted in vaccine virus to the human family; a few instances of multiple abscesses have been reported as the result of employing virus from a scrofulous child.

In regard to the transmission of *leprosy* in vaccination, the evidence is conflicting. The cases so far reported occurred in countries where the disease is endemic. Whilst Arning found the bacilli of leprosy in the vesicles of three vaccinated lepers in Hawaii, and Dr. Simpson also in Calcutta, Buckmaster, Thompson, and Rake failed to demonstrate their presence in the vaccine lymph of forty lepers. (*Jour. Leprosy Commiss.*, December, 1891, page 33.) Nevertheless, the possibility of such an occurrence should not be disregarded, and can, of course, be averted by the employment of animal lymph.

In considering the dangers from the transmission of *skin diseases*, it should be remembered that vaccination, like teething or other irritating causes, may simply hasten the appearance of an eruption which the child was incubating.

Still, there are well-authenticated cases on record where impetigo contagiosa (tetter) has been communicated in vaccination, and the possibility of transmitting other parasitic skin diseases should not be ignored.

Prevention of the Dangers of Vaccination.—Notwithstanding the unfortunate facts just referred to, the cases of syphilis, skin diseases, and even leprosy, furnish no argument against the protective influence of vaccination, but they do furnish additional evidence in favor of animal lymph. The majority of the serious sequellæ were reported before the era of anti-septic surgery; and when we remember that the mortality from all amputations in the Crimean War (1854-55) was 63.5 per cent., in the American Civil War, 48.7 per cent., and that this percentage has steadily fallen, until in 1890 it was only 6.9 per cent., we have just reasons to assume that such complications as erysipelas and pyæmia, which were the principal causes of death after surgical operations, have correspondingly decreased in vaccination. At a time when the terror for the disease which formerly prevailed among the public has, through the agency of vaccination, declined and given place to a dangerous *apathy* in the unprotected, it is especially important that the facts be presented and the dangers reduced to a minimum. The latter can be done by *scrupulous attention to the following points:*

(1.) To employ the utmost care in the selection and preservation of the lymph. The vaccinifer, whether bovine or human, must be absolutely healthy.

(2.) Animal lymph is usually taken from the calf on the fifth or sixth day, and should be exclusively used except in delicate subjects, and when it fails to take after repeated trials.

(3.) Human lymph should be taken from primary cases only, and from children between three and six months of age, and whose health and family history, after a thorough examination, is beyond suspicion.

(4.) The vesicles from either source must be perfect, well filled, and free from an areola. Jenner discarded all vesicles which showed this areola on the sixth or seventh day,

in order that inflammatory products might not contaminate the virus.

(5.) Care must be taken in opening the vesicles not to draw any blood, the virus must be perfectly limpid and odorless, and the slightest admixture of blood or pus renders it unfit for use.

(6.) Flies must be kept away, and the utmost cleanliness must be observed during its collection in the use of instruments, ivory points and other receptacles of the virus.

(7.) The skin of the arm to be vaccinated should be disinfected with a solution of corrosive sublimate (1=1000). A fresh needle previously disinfected over a portable spirit-lamp should be used for each vaccination and then thrown away. Sterilized water should be used in moistening the virus on ivory points.

(8.) Clean clothing and avoidance of scratching must be enjoined to prevent the access of erysipelas and other septic germs, and a careful examination of the vaccine vesicles should be made between the sixth and eighth day.

Before closing, it is proper to state that, in the opinion of those most competent to judge, the people of this country are not properly protected by vaccination. If this be true, it is only a question of time when we shall, like the people of Guatemala in 1890, pay the penalty for this unbelief. Whilst death is inevitable, suffering may be prevented, and this has been accomplished by the achievements of modern preventive medicine. Progress is the watchword of the nineteenth century. Let our action in this momentous question "raise no blush on the cheek of posterity." Jenner's discovery is but the dawn of a new era. It has quickened the pulse, stimulated the intellect, and fired the ambition of investigators; and "preventive and curative inoculations" have already been carried out in the case of anthrax, chicken cholera, diphtheria, and more recently in Asiatic cholera and other affections; and the time is not far distant when these experiments, together with the results of Pasteur's system of treating hydrophobia, and

Koch's treatment in certain forms of tuberculosis, once so ignominiously assailed, will confer upon humanity additional blessings, and add new lustre to Jenner's name.

1819 *Q Street, N. W.*

Art. III.—Eruptions Following Vaccination.*

By JOHN E. WALSH, M. D., of Washington, D. C.

My attention was first called to the possibility of an eruption following vaccination by several cases, which I will now relate, occurring in my own practice:

Case I.—Earl P., white, male, about 6 years of age; apparently in very good health and skin clear, except for a little roughness about the mouth and cheeks, which his mother said had been there for some years following eczema. He was vaccinated October 26th. On the 31st, I was called hurriedly to the house, and found the child in agony from an intolerable itching due to an attack of *urticaria* which affected his whole body, particularly his face. He had been quite well until about half an hour previous, when he was taken suddenly with this intense itching. His face was swollen, cyanosed and covered all over with the eruption. His pulse was very rapid and temperature slightly elevated. His voice was husky.

The irritation was controlled by the application of a solution of bicarbonate of soda, and while I was looking at him the wheals disappeared, leaving a roseola rash. I revaccinated him, prescribed citrate of magnesia and left. The following day the rash had entirely gone, and the boy was perfectly well, playing around. I made inquiries to find out if he had eaten something that may have produced the trouble, but found nothing.

I revaccinated him, because about three or four days before his father had been removed to the hospital suffering from small-pox, and I was not quite sure this was not the erythema that occasionally precedes that disease, and wanted to be certain his vaccination would take

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* Read before Medical and Surgical Society of the District of Columbia, February 4th, 1895

The first point of inoculation took at the proper time, and went through the course of a normal vaccine pustule.

Case II.—Mrs. W., white, female, married, æt about 35 years; healthy, but of very nervous disposition; was vaccinated November 3d, and on 7th a *scarlatinal* eruption appeared first on chest and spreading to face and limbs. This frightened her very much, of course, but as there was no rise of temperature and pulse rate increased but slightly, and no history of exposure to scarlatina, I assured her there was nothing to fear. The eruption disappeared in four or five days. Her vaccination took all right and ran a normal course.

Case III.—Emma W., white, female, æt 8 years; perfectly healthy and skin clear now, though during summer before last suffered very much from urticaria; was vaccinated October 27th, and pustule ran a normal course. About eighteen days afterward I was called to see her, and found her covered all over, from head to foot, with a *measly eruption*, which first appeared on the chest and spread rapidly to the face, back, and limbs. Temperature 102.4 and pulse 120. She had no appetite and was slightly constipated; had no cough nor coryza, and had had measles three years before, for which I attended her. Her tongue was furred and heavily coated, and breath very offensive. The tongue, roof, and sides of mouth were covered with little ulcers, while her lips were so covered by an herpetic eruption that it was difficult for her to open her mouth very wide. She was treated for the general symptoms. Oxide of zinc ointment applied to lips, sodii biborat. and tincture benzoin were used as a mouthwash, and in a few days she was all right. The eruption was at first bright red, and the crescentic form, as in measles, was easily made out. This eruption gradually faded, becoming at first darker, then bluish, then like minute points under the skin, and finally disappearing in about a week.

Case IV.—J. D., white, male, æt 2 years; perfectly healthy and skin clear; has never had any skin affection; was vaccinated November 15, 1894; was called to see him December 2d, and found him suffering with an intense *dermatitis* of vaccinated arm extending from shoulder to wrist. It also affected both ears, particularly the right, which was very much swollen and inflamed. All over his face were scattered pustules, some of which were also on right arm (vaccination was on the left).

Case V.—Sister of J. D.; æt 10; was vaccinated a little earlier, and broke out on back and leg with *similar* pustules.

Case VI.—Mary G., colored, female, æt 16. About fifteen days after vaccination had a *pustular eruption* appear on face, hand, arms, and back. This eruption so closely resembled that of small-pox that an inspector had it under observation.

Case VII.—Miss C., white, female, æt 27; apparently healthy and skin clear; never suffered from any affection of the skin. She was vaccinated, and the pustule ran its normal course About the time the vaccination healed, she was attacked with *urticaria*. This was the first she ever had of this affection, and, though it was easily amenable to treatment, it has recurred since several times.

When I came to the conclusion that these eruptions might be caused by vaccination, I looked at our text-books to see what they had to say on the subject, and was surprised, though some of them mentioned the possibility, that they said very little about it.

Duhring, in his work on *Skin Diseases*, says: "In addition to the usual local disturbance which this process (vaccination) occasions, it is now and then followed by peculiar erythematous, pustular, or furuncular affections; they occur, however, comparatively rarely, and are usually benign in their nature. Occasionally, however, the disease is deep-seated, and is severe, giving rise to considerable inflammation of the skin and subcutaneous tissues, variable as to form."

Smith, in his "*Diseases of Children*," says: "Supernumerary vesicles may appear in other parts besides the point where the virus was introduced—generally where the cuticle has been removed by burns or injuries. He cites a case of Trousseau's where, on the eleventh day after vaccination in an infant, he found a number of vaccine pustules on face, trunk, and limbs. This infant had, before vaccination, a simple eruption all over the body, and he believed these were vaccinated by the child rubbing the denuded surface with his nails, thus transferring the lymph."

He says further: "It is not unusual, also, to observe minute papules appearing on parts of the surface simultaneously with or soon after the vesicle, and in a few days declining."

Roberts says: "After vaccination a general rash is sometimes observed of a roseola, lichenous or vesicular character, which does not usually last beyond a week These erup-

tions are more common after vaccination direct from the cow."

I believe Dr. Jenner, in 1804, was the first to call attention to eruptions following vaccination.

He also said if a person is suffering from any form of skin disease, the vaccine pustule will be modified, and in a great majority of cases a successful vaccination will not be obtained.

As soon as he noticed the pustule deviating from the normal he looked for some skin trouble, and in most instances found it. He mentions a case where he noticed in one of a family of five healthy-looking children, on the fifth day the vaccine pustule advancing too rapidly. Its appearance caused him to make an examination, and on the child's head found an herpetic blotch as large as a quarter. He treated the disease on the scalp, and after six weeks, when it had entirely healed, revaccinated him, and the pustule went through its proper stages without any irregularity.

Dr. Joseph Adams (*Med. and Phys. Jour.*, Lond.) in 1804 mentions a case of vesicular eruption following vaccination.

Dr. F. C. Curtis noticed the occurrence of an eruption after vaccination, and read an interesting paper on the subject before the Medical Society of the County of Albany in 1886.

The first intelligent account and description of the eruptions was written by Dr. Malcomb Morris, F. R. C. S., Edinburgh, and read at the annual meeting of the British Medical Association at Birmingham July, 1890 (*Brit. Med. Jour.*, London, 1890, Vol. II.). It brought out a very interesting discussion from the members present.

Dr. Morris divides the classification of vaccine eruptions into two principal groups.

Group I. Eruptions due to pure vaccine inoculations.
Group II. Eruptions due to mixed infections—that is to say, to vaccine together with an additional virus.

These he further subdivides:

Group I. Eruption due to pure vaccine inoculation:—

A. Secondary local inoculation of vaccinia.

B. Eruptions following within first three days before development of the vesicle:—

Urticaria.
Erythema multiforme.
Vesicular and bullous eruptions.

C. Eruptions following after the development of the vesicles, due to absorption of virus.

1 { Roseola—morbilliform.
Erythema—like scarlet fever.
Purpura. }

2 Generalized vaccination.
(Vaccine généralisée).

D. Eruptions appearing as sequelæ of vaccination, eczema, psoriasis, uticaria, etc.

Group II. Eruptions due to mixed infections:—

A. Introduced at time of vaccinations.

Sub-division (*a*). Producing local skin disease.
Contagious impetigo.
Erythema.

Sub-division (*b*). Producing constitutional disease.
Syphilis.
Leprosy.
Tuberculosis.

B. Introduced not at the time of vaccination, but subsequently through the wound.

Erysipelas.
Cellulitis.
Furunculosis.
Gangrene.
Pyæmia.

Dr. Thomas Dobson Poole, of Edinburgh, to whom I am very much indebted for much of the matter contained in this paper, in his excellent work on this subject makes use of this same classification.

I think we may dismiss the consideration of the second group, that due to disinfection, in a very few words.

It does not seem to me at this day, when it is possible to get pure virus from healthy calves, there ought to be any danger at all from introducing a mixed virus. Of course I can readily understand that by using humanized virus a great many things might be introduced producing all sorts

of results. With vaccine farms subject to governmental inspection and regulation, as is provided in the bill recently prepared by our Health Officer, Dr. W. C. Woodward, to be introduced in Congress, there ought to be nothing but pure virus produced.

The virus used in this city during the recent epidemic, most of which came from the farm of Dr. Ralph Walsh, has been of very good quality, and has produced very good results. In fact, I have not seen a single bad case result from its use in the nine hundred or more vaccinations that have come under my observation. I remember one lot of eighty-nine cases where only three vaccinations failed to take, and in another lot only two out of fifty-six failed.

While it is claimed that humanized lymph from an infant is better than that from the calf, I would much prefer the latter, especially when I am informed there are five million syphilitics in the United States. The chance of being inoculated with syphilis is, of course, very small, but at the same time, I would rather use that in which there is no such danger, and where results are, I think, just as good.

In vaccination, as in any other wound, the poison of erysipelas, cellulitis, gangrene, etc., many find a point of entrance into the system and produce those diseases. It is hardly fair to call them eruptions of vaccination, but should be classed as accidents.

Dr. Poole concludes as a result of his investigations:

I. The consequence of tuberculosis by vaccination is impossible.

II. The transmissibility of leprosy by this means is questionable—the strongest evidence that it might being a case reported by Dr. Morris, where a woman, apparently perfectly healthy, was vaccinated with virus from a leprous person and became a leper.

III. It is possible to transmit syphilis, but is extremely rare.

The commonest eruptions following inoculation with pure virus are roseola, erythema and urticaria; more rarely miliaria, generalized vaccinia, purpura and pemphigus.

The cause of these eruptions is hard to find; nor can we

give any reason why one person should be so affected and not another, except that of idiosyncracy, which is all the explanation we give why some persons suffer from an eruption after eating certain foods or taking certain drugs.

Those eruptions which occur within the first three days after vaccination are probably of nervous origin, due to vaso-motor disturbance. After the formation of the vesicle, they are probably due to the absorption of a certain material from the developed pustule.

It is said these eruptions more frequently follow the use of lymph from calves than from humanized lymph. Roberts says they are apt to be produced when the virus is fresh from the animal. There may be some truth in this, for all of my cases were vaccinated with recent lymph.

Roseola is the most frequent of these vaccine rashes. It usually appears from the eighth to the eleventh day—about the time of maturation of the pustule. Very rarely it is seen as early as the third day and as late as the eighteenth. One of my cases, it will be observed, did not appear until the sixteenth day. It is a rosy, macular rash, very like that of measles, disappearing on pressure. It usually appears first in the locality of the vaccine pustule, and spreads all over the body. The macules may be isolated or confluent. Some hold it is not accompanied by fever or other constitutional disturbance, while others say it is attended with a rise of temperature. I am inclined to believe from observation in my cases that both are right and also wrong—that is, we may have fever and other general symptoms in some cases and not in others. It is a benign eruption, and usually dies away in two or three days.

The disease with which it would most likely be confused is measles; but the absence of high fever, coryza, catarrhal conjunctivitis and recent vaccination would help the differentiation. The spots of roseola are said to be larger than those of measles, also rounder and less angular.

Most of the eruptions of vaccination are of such a harmless nature and so quickly recede, that very little has been said of them more than that they occur.

Dr. Morris in his classification says *erythema* and *urticaria* may be present before the appearance of the vesicle, and that urticaria may occur later as a sequela of vaccination.

There is an erythema that appears in the first twenty hours, but disappears very quickly.

Dr. Poole says urticaria due to vaccination is very rare.

Danctez records a case in a child who was suffering from a vesicular eruption, and whose vaccine pustule were drying up. The urticaria appeared on different parts of the body, on the back of hands, middle of left hand, and sternal region.

Mr. Q. R. Darling (*British Medical Journal*, 1890.) also mentions a case in a girl, who had been inoculated through milking cows, suffering with vaccinia. In her case the urticaria appeared on the back of arms and left side of face.

Dr. Poole's conclusions are: That erythema, associated with vaccination, is related to roseola; is usually evanescent, accompanied with little or no constitutional symptoms; and presents itself in two principal varieties, erythema multiform and scarlatiniform; and that urticaria, a very rare manifestation, may appear within the first three days after, or as a sequel of vaccination.

Miliaria after vaccination is very rare, and is similar to miliaria from any other cause It generally appears from the eighth to the twelfth day after inoculation. It consists of little pin-head vesicles, occurring over large surfaces, and very numerous. The vesicles contain a transparent fluid, which a little later becomes opaque. It soon dries up and scales off without leaving a scar. There is very little constitutional disturbance accompanying it. It commences as little rosy spots, which are soon covered with a multitude of vesicles the size of a pin's head, and presenting, whether near the site of the inoculation or on other parts of the body, a similar appearance.

At first the vesicles contain a clear liquid, but they may, in the course of twenty-four hours, pass into a purulent, milky stage and dry up, after thirty-six or forty-eight hours. If the disease be complicated with some other eruption, it

may be prolonged six or eight days. There are several cases on record of this disease following vaccination.

Cases of *pemphigus* have been reported as following vaccination, but does not differ from that unassociated with it. It generally occurs in feeble, rachitic, and anæmic children. Dr. Behrend says: "The bullæ vary in size from a pea to a strawberry, and are filled with a clear fluid, which on drying up, gives place to little crusts covering red ulcerations. New bullæ appear on other parts of the body as the old disappear.

Purpura is a very rare affection following vaccination, and occurs in those of hæmorrhagic tendencies. Dr. Poole mentions the following case: A little girl, age four years, was vaccinated on the 19th of March, 1842. Five punctures were made on the left arm, the lymph used having been taken from a perfect vesicle of the eighth day. An elder brother and a younger sister were vaccinated with lymph from the same source. On the 23d, the arm was more inflamed than usual, and some spots were observed upon the face. The child, according to all reports, enjoyed perfect health. On the 26th, the eighth day after inoculation, the pustules were black as if filled with blood. Numerous petechiæ were dispersed over the body, but more especially over the face, back, and arms. A slight contusion on the temple gave rise to an ecchymosis. A little blood escaped from the left ear and nose, but there was not blood in the excrementary materials. The general health appeared good, and the petechiæ scattered over the body disappeared at the same time as the vaccine pustules. On the sixteenth day all evidences of hæmorrhage had gone, two crusts having dropped off, but the three others, as black as jet, remained.

In the brother and sister the vaccination followed a more normal course.

Eczema is a very peculiar disease in its relation to vaccination, for in some cases where eczema exists before, vaccination causes it to disappear, while in other cases, it is the immediate exciting cause of its appearance. There are sev-

eral cases on record of eczema disappearing after vaccination. Dr. C. D. H. Drury (*British Medical Journal*, 1880,) mentions three cases. Drs. Carrick, Murray, Thomas Wilson, R. P. Tyler, and D. M. Williams, in the same journal, mention cases.

In those persons in whom eczema follow the inoculation with vaccine virus, there is some hereditary predisposing cause, as gout, rheumatism, struma, etc., the general systemic depression of vaccination being sufficient to favor the appearance of the disease.

The following is a very interesting case of *eczema* following vaccination, quoted from Danctez by Dr. Poole:

"Marie L., born 17th October, was vaccinated on November 4 by Dr. G. On the 11th November, the vaccine pustules are well developed. There are two on each arm, and the infant shows no trouble; no diarrhœa or fever. It takes the breast well, and sleeps quietly a part of the day. However, on undressing it on the 4th of November, in order to give it a bath, there is discovered a very intense eruption that has appeared during the night over the whole surface of the body. The arms, the neck and face are red and inflamed. The buttocks and lower limbs are also affected. 15th. The eruption has given place to a second vesicular swelling, very pugnacious, which leaves bare red and inflamed surfaces. 16th. The inflammatory action, very pronounced during the night, is less. The eruption pursues its course; on the arms it is less; it persists on the shoulders, face, forehead and cheeks; the patches over the eyebrows and temples show perfect symmetry; it is also forward behind the ears, on the nape of the neck, and in front of the arm-pit. 18th to 30th. The eruption lost its acute characters, but the eczema on the face lasted till the end of January of the next year.

"The parents of this child have never had eczema; the father is rheumatic, and the mother is subject to acute eruptions, especially at the menstrual epochs."

The treatment for this is the same as for eczema generally.

Vaccine Généralisée.—After reading all the arguments pro and con, Dr. Poole has concluded there can be no doubt of a spontaneous vaccine généralisée that is due to blood infection. Of this he makes two varieties: the spontaneous,

due to blood infection, and the other caused by auto-inoculation.

Spontaneous vaccine généralisée, he says, is a very rare disease due to the absorption of the active principle of vaccine lymph into the system. It is most frequently noticed in infants, but sometimes occurs in adults.

The disease may appear after vaccination at the same time as the vesicle; at the point of inoculation, or later.

When vaccine lymph has been taken internally, it shows itself in from four to eight days. In some cases, the symptoms come on suddenly, with fever and irritability of patient. Papular points appear on the vaccine areola, becoming vesicles in two or three days. About the same time isolated vesicles occur in other parts of the body, which, in their papular stage, resembles that of small-pox. These vesicles may appear on any part of the body, but are more numerous about the point of inoculation on the areola, where those nearest the centre become confluent and more developed. The secondary vesicles may or may not be surrounded by an areola, but is never very extensive. The eruption on the extremities is generally symmetrical, and occurs more frequently on the flexor surfaces.

The vesicles generally dry up in from fifteen to twenty days, and does not leave a scar.

Of vaccine généralisée, due to auto-inoculation, Poole says it is the less rare of the two forms, and is generally accompanied with some skin disease, as eczema, erythema, etc., or other cutaneous lesion. It may occur from the third to the eighteenth day after vaccination. The virus is conveyed from the arm by scratching or by some other person. Sometimes there is much swelling about the secondary vesicle, due probably to the veins in its transit being contaminated with septic germs. These vesicles generally dry up about the fourteenth day, but sometimes ulcerate and thus prolong the illness. They do not leave a cicatrix.

This disease must be distinguished from varicella, varioloid, and variolation.

From chicken-pox it is differentiated by the size of its vesi-

cles, by not having fresh crops of its vesicles, and the possibility of exposure to the contagion of chicken-pox.

From varioloid, by absence of pain in back, vomiting, pyrexia, and possible contagion.

From variolation, by knowing that vaccine lymph and not variola was used.

No special treatment is required in vaccine généralisée, except to support the strength of the patient and treat eruption locally, if irritable.

In writing on such an interesting subject as vaccination, it is very difficult to refrain from wandering off to the consideration of the other phenomena of this complex subject, but I have confined myself wholly to this branch; and in conclusion will make *a few points* for the purpose of bringing out discussion and eliciting information, although I have touched on them but lightly or not at all in my paper.

1. That eruptions following vaccination are comparatively rare, but more common than we supposed.

2. Eruptions are more liable to be produced in those who have suffered from some form of skin disease.

3. Where a skin disease is present, unless the presence of small-pox makes it necessary, it is better to postpone vaccination until it is cured.

4. That a deep ulcer at the point of inoculation is not necessarily a good vaccination.

5. As a rule, vaccination does not begin to take until the fourth or fifth day, and often as late as the seventh.

6. Does successive inoculations of a calf so attenuate the vaccine virus as to destroy its immunizing power?

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Annales d' Oculistique,

Edited in Paris by Drs. E. Valude and D. E. Sulzer (French Edition), and in New York by Dr. Geo. T. Stevens (English Edition) began a new series with its January, 1895, number. The Trans-Atlantic Publishing Co., 63 Fifth avenue, New York, has charge of the English Edition. Price, $5 a year.

Art. IV.—A Study of Cellular Inflammations, with Special Reference to Pelvic Disease in Women.*

By W. H RIBBLE, Jr., M. D., of Wytheville, Va.

* Read before the Wythe County Medical Society, January 14th, 1895.

The numerous discrepancies which have always, and do still exist among the members of our profession, as to the nature and treatment of diseases, have become so proverbial that the expression, "Doctors will differ," is a by-word of no little significance when those of purported authority disagree.

It is *astonishing*, and to those of us who look to the so-called authorities for guidance and information, very confusing, to see how widely authors do differ; so that it would appear that in medicine, more than other reading, we see the application of the old adage of Francis Bacon, "Read not to contradict and confute, nor to believe and take for granted, nor to find talk and discourse, but to weigh and consider."

In view of the wide differences which exist as to the nature of pelvic inflammations, let us consider *the nature of the pelvic contents, and of inflammations of a kindred nature in kindred tissues*, and by clinical verification of suggestions gathered therefrom, endeavor to throw more light into the pelvis.

The bladder, uterus, rectum and vagina are organs which, in performing their active physiological functions, require the connective tissue packing, between and around them, to be of a very loose and distensible nature.

The *bladder* may vary in diameter from 1½ to 4 inches. *The uterus* in the virgin is 2½ inches long; in pregnancy it reaches 12 inches in length. *The rectum*, when empty, occupies little space, but when full or impacted may distend from one to four inches. *The virgin vagina* also occupies little space, but in copulation and labor it is widely distended.

Again. These active organs require an active blood supply and many lymphatics to sustain them in performing

their functions. Hence we find the *vaginal arteries* (derived from the internal iliac), the uterine, and branches from the pudendal, the rectal and vesical, are large, and anastomose freely with one another through this connective tissue.

The *vaginal veins*, which through their congestion during sexual excitement make the peri-vaginal connective tissue an erectile tissue, form two complete vascular sheaths around this canal and communicate freely with the plexuses of the bladder, rectum, external genitals, and broad ligaments.

The *lymphatics* are proportionately numerous. The vaginal lymphatics form plexuses in the mucosa, sub-mucosa, and muscular coat. "The efferent vessels form a rich plexus of large trunks, with large dilatations, in the surrounding connective tissue," (Klein), which, as we will hereafter see, *communicate directly with the abdominal cavity.*

The *uterine lymphatics* are also very numerous. In the inter-muscular coat are lymph sinuses and lymph clefts, communicating freely. They take up the lymph from the mucous membrane and lead into a plexus in the sub-serous connective tissue, which also communicate with the peritoneal cavity through holes or open mouths (stomata), which, according to Klein, place all serous cavities in direct communication with the lymphatics of the surrounding parts.

By reference to anatomy and histology, we find that *pelvic cellular or connective tissue* is of the same character as the connective tissue in and around all the organs of the body. Klein divides connective tissue into only three groups—viz: (1), fibrous connective tissue; (2), cartilage; (3), bone. No special group for the pelvis. Of fibrous connective tissue he says: "It occurs in the skin and mucous membranes, in the serous and synovial membranes, in the membranes of the brain and spinal cord, in tendons and tendon sheaths, in fasciæ and aponeuroses, in the inter-muscular tissue, and in the tissue connecting neighboring organs," etc. "In the interstitial connective tissue" (and of such is that in the pelvis), "the texture of the fibrous tissue is more or less loose, the trabeculæ dividing and reuniting—leaving between

them spaces, so that the tissue assumes the character of a loose plexus, which is sometimes called cellular tissue."

Now, as to *the connection between this cellular tissue and the serous cavities.* "In some places the lymphatic vessels of a tissue or organ are possessed of or connected with irregularly shaped, large sinuses. Such sinuses are found in connection with the sub-cutaneous and sub mucous lymphatics, etc. On the same footing—*i. e., as lymph sinuses*—stand the comparatively large lymph cavities in the body, such as the subdural, subarachnoidal and synovial cavities, the cavities of tendon sheaths, of the tunica vaginalis testis, the pleural, pericardial and *peritoneal cavities*," and "in all instances, *these cavities are in direct communication with the lymphatics of the surrounding parts* by holes or open mouths (stomata)." [*Klein's Elements of Histology*, pages 88 and 89.]

With this histological picture in our minds, let us glance at the *ordinary inflammations* which we meet in practice. This areolar connective tissue and its associated lymph spaces and lymph cavities are the battle-fields, in most if not all instances, upon which combative and reparative powers of tissue (blood and lymph cells and lymph) meet and encounter destructive agencies. In lymphatic glands, the testes, joint cavities, tendon sheaths, fallopian tubes, etc., where there is little areola tissue and the battle-field is small and hemmed in by a dense capsule, sheath or wall, the influx of blood and deposit of lymph causes a tension which interferes with their combative and reparative powers, and strangulates the enclosed structures. Elimination of ptomaines and debris are interfered with, the part dies, and we have an abscess formed. Or, if in a tendon sheath lymph sinus, or fallopian tube, we have a collection of pus, it may not become encapsulated, but follows the channel of a sheath sinus or tube and kindle inflammation in neighboring parts. In the serous cavities, if the destructive power be not of a continued or excessively virulent nature, the injured spot may be enveloped in lymph; the inflammatory process thus limited may be checked and its products absorbed; but if pus be poured into such a cavity, as from an abscess of the

lung, a perityphlitic abscess or pyosalpinx, or other septic matter, as from a gangrenous lung, a septic wound in the chest wall, a perforated intestine, a decaying placenta or blood clot in utero, restricting and combative efforts on the part of nature will be fruitless till the source of trouble is removed. In the larger planes and collections of areolar tissue we find a given cause produces far less destruction. While I have frequently seen an inflammation, kindled in a finger by the prick of a pin, needle or tack, produce destruction of tissue and invade the whole hand and arm, the same and much greater violence done to the large sub-cutaneous planes of areola tissue rarely produce more than a temporary congestion with a little induration and tenderness—there being plenty of room for the process of limiting and absorbing the cause and products of this small amount of inflammation without interfering with adjacent parts. Again, we often see extensive and active inflammations in these larger collections of cellular tissue which, more frequently than otherwise, run an acute course with resolution and no destruction of tissue or formation of pus.

And thus we might continue, *ad infinitum*, to compare and connect cause and effect and other factors modifying or accelerating cellulitis, in and around different organs of the body, till we stumble upon the pelvis. Then the veil of mystery is drawn between us and all we have learned from anatomy, histology, pathology, and clinical observation.

Anatomy shows us a loose, sponge-like mass of connective tissue (filled with lymph spaces, lymph and blood-vessels), forming a cushion around the supra-vaginal part of the cervix uteri, and extending laterally to form (with its peritoneal covering) the broad ligaments, upwards around the uterus and bladder, and around the vagina and rectum behind. And the peritoneum covers and dips down into the tissue, and communicates directly with it "*through open holes.*"

Pathology shows that cellular tissue is easily inflamed; that if extensive and vascular, it has combative and eliminative power in proportion thereto; but, if the inflamma-

tory process be of overpowering virulence, its devastation will be in proportion to the area of accessible parts and the channels through which it may be transmitted (*i. e.*, blood and lymph vessels, lymph cavities and lymph spaces).

Clinical observation shows the vagina—with its corrugated walls to retain leucorrhœal, menstrual, lochial and other discharges and secretions—to be a favorite resort for staphylococci, gonococci and various other micrococci, as well as ptomaines of decomposition which are, at times, so irritating as to cause itching and excoriation of the external parts over which they flow, and irritation or inflammation in the meatus urinarius with which they come in contact. And, more rarely, these ptomaines and bacteria enter and inflame the endometrium and occasionally the fallopian tube.

On the other hand, this canal, which is so frequently septic, is very liable to traumatism—*e. g.*, contusions in violent coitus, abrasions and contusions from pessaries which do not fit or are worn too long. Again, we see cases where a paint-brush handle, darning needle, syringe nozzle, or some other murderous weapon is blindly aimed at a fecundating ovum, and, missing its mark, is forced into the vaginal wall or the cervix. An abortion is produced, the unripe placenta separates slowly, disintegration takes place, the decaying placenta or chorion bathes the endometrium and vagina, and this poisonous debris is absorbed by the denuded endometrium or vaginal abrasions.

A still more alarming picture is presented by the parturient female organs—presenting traumatism at the denuded placental site with its open vessels, and probably a cervix torn through into the connective tissue before alluded to, and extensive vaginal contusions and abrasions, with a rent of greater or less extent at the vaginal outlet—the recuperative powers of the patient being at the same time lowered by exhaustion and loss of blood. In this condition, negligence, and a lack of asepsis or antiseptics, may prevent decomposition of the dead animal matter which is being thrown off, and the parts are bathed in virulence, the odor from which almost paralyzes your olfactories when the bed-

clothes are raised! And yet some "authorities" cling so tenaciously to the doctrine of Lawson Tait, that they sneer at the mention of cellulitis or cellular abscess, and attribute the origin of nearly all pelvic inflammations to a salpingitis, and their seat to the pelvic peritoneum (which is simply the skin of the pelvic cellular tissue). These septic discharges may start a cellulitis *at the root of the nail on the examiner's finger*,* but, according to Tait's Jurisprudence, they must overlook all other channels of absorption and follow the straight and narrow way of the fallopian tubes to the peritoneum before they can legitimately set up an inflammation.

But our desire is not to criticise, but to investigate; and with the light we have brought to bear upon the pelvic organs and their surroundings, we will take a brief and general glance at the abnormal conditions here met with—their causes and rational treatment.

This being too broad a subject to enter into in detail, we will allude to them as (*a*), *abnormality and disease in the virgin in high life;* (*b*), *in the virgin of the working class; and* (*c*), *those dependent upon coitus and its results.*

(*a.*) In the young lady who is raised in luxury, eating rich and highly seasoned food without taking adequate or regular exercise, which "is the cause and condition of that vital renovation of parts which is the source and measure of constitutional vigor," we find a lack of constitutional vigor and functional equilibrium resulting in lack of tone and tension in the tissues which support the uterus and its appendages. At the time of life when these organs are developing for functional activity, she is probably confined at school or has her delicate nervous system otherwise overtaxed by literary, social or emotional indulgences. These, with other unnatural and irregular habits of life, bring on a condition in the sympathetic nervous system which materially interferes with its reactive, inhibitory and nutritive powers, and, together with the lack of tissue tone and ten-

* I have had this to occur twice in my own finger.

sion, before alluded to, is productive of malpositions and neuralgias in poorly developed organs of generation.

Accompanying these conditions, we have the various menstrual disorders (with which we are all well acquainted) and, as a result of malposition (which interferes with the free circulation of these vascular parts), neuralgias (which from their irritation cause an afflux of blood to the parts), and menstrual disorders (which are also productive of more or less congestion); we find various degrees of congestion, causing over distension and deposit of lymph, which is manifested as hypertrophy of the uterus, phlegmon in the cellular tissue, catarrh of the tube, uterus or vagina, etc.

These chronic inflammations may in time cause sufficient destruction of tissue, or, by lowering the vitality of tissues and rendering them fit for infection, be followed by a higher degree of inflammation and result in abscess (pyosalpinx, or, possibly "cold abscess" in the cellular tissue) or purulent discharge from the mucous surface.

Again, this class of patients, with weakened systems and poorly developed organs, are subject to acute inflammations from such slight causes as getting the feet wet or exposure to cold, or even from emotional excitement which, causing vaso-motor disturbance, react upon the organs of generation and produce neuralgias and congestion or inflammation.

(*b.*) In the shop girl, factory girl, washerwoman, cook, etc., we meet with almost the same diseases; but, while there is possibly a greater per cent. of this class afflicted with "female disease," the cause and condition is different. Some, it is true, from a lack of proper food and protection in childhood, have weak organs and constitutions, simulating the condition produced by the opposite cause, but as a rule, their constitutions are hardy, nerves stronger, and organs better developed. But the constant confinement to which they are subjected (even at the time of the catamenia), the lifting, stooping, climbing steps, etc., which they have to do—often when the whole system is relaxed by fatigue—makes them frequent victims of displacements of the uterus and ovaries, pelvic congestions and menstrual disorders. Poor

hygienic surroundings and neglect of personal cleanliness, exposes them to many sources of infection and unhealthy accumulations.

In both of these classes I have seen granular erosions of the cervix and muco-purulent discharges, which I believe to be the result of chronic catarrhal discharges which have in time become septic and irritating; and an extension of septic inflammation into the tubes, uterine and pelvic connective tissue offers an explanation of virginal metritis with hypertrophy, cellulitis, salpingitis, and peritonitis. Another instance of this "*auto infection*" is seen in colpocace infantilis. In six cases I have seen, the cause was undoubtedly decomposition of secretions permitted to accumulate in the external genitals (in one of these cases the accumulation was under adhesions to the clitoris).

(*c.*) Under this head we meet with constitutions indicated under both the preceding heads, and in many instances the diseases arising from coitus, abortion and labor are superadded to those there alluded to. And even if there be no actual disease, the physical condition has much to do with its development and continuation.

The frail society girl becomes a wife. It soon dawns upon her that she is to be a mother. Her susceptible nervous system, weighed upon by dread and apprehension, and irritated by changes going on in organs which have not been properly developed, manifests its lack of equilibrium by the various vaso-motor, digestive, mental and other disturbances with which we are familiar. Labor comes on; the patient says and believes that she will not live through it. She is in a state of nervous tension, which makes her pains spasmodic, weak and ineffective. The os dilates slowly, her strength is expended in restless groans, contortions and screams. Forceps are applied, and the child's head is drawn through undilated parts, causing contusions and lacerations before mentioned. In the working classes, with better development and less nervous susceptibility, these complications are less frequent; but it is here that the "cocci" do their best work.

Prof. G. Frank Lydston tells us that "Gonorrhœa poison is primarily generated in women," and "the pelvic organs of the female may become infected from various inflammatory and putrefactive processes in her own generative apparatus; not necessarily dependent upon antecedent contagion." These results we most frequently find in the lower classes. But the statistics of Noeggerath show that 80 per cent. of men have had gonorrhœa, and that 90 per cent. of these remain uncured; making 72 per cent. of husbands (including all classes) who expose their wives to this accursed cause of infection of any and all the female organs, and thus productive of vaginitis, metritis, salpingitis, cellulitis, peritonitis, menstrual disorders, sterility, pelvic abscess and what not.

Treatment: Leaving the further investigation of this extensive subject to those who are sufficiently interested to consider the suggestions I have endeavored to bring forward, we will refer to the *general principles of treatment of pelvic disease;* and, in the outstart, suggest that the best treatment in all cases to which it is applicable is the *preventive.* When this has not been applied, remove the cause and assist nature in repairing the damage.

In septic vaginitis, after an antiseptic douche to thoroughly cleanse the vagina, a tampon soaked in glycerine (in which may be incorporated astringents, antiseptics, etc., as the special case demands), and well packed into the vagina, will, by its bulk, press upon the vaginal walls and lessen congestion, and distend and absorb secretions from the numerous vaginal folds. It acts as a support to the congested uterus; holds the medicinal remedies and glycerine in contact with the diseased mucous membrane, and prevents contact of adjacent parts—the glycerine itself by its great affinity for water depleting at the same time the congested tissues The tampon is also a valuable remedy in cervical and metral inflammations when support, drainage and depletion are indicated; but lesions and septic conditions of the cervix and uterus must be *removed* before any application or mechanical support can be expected to effect

a cure. For months I treated what seemed, on superficial examination, to be simple erosions of the cervix, with some hypertrophy, and found upon closer examination numerous enlarged nabothian glands. These being punctured, the effects of their irritation soon disappeared. But it is in septic metritis and salpingitis, with their associated cellulitis and peritonitis, that error most frequently occurs—error arising from lack of complete recognition of conditions, and consequently of application of remedies.

Too often the general practitioner will, in an uncertain, distrusting manner, introduce an untrained finger in the vagina of a woman who says she has "falling of the womb," and without investigating the nature of discharges, hypertrophy, induration, tenderness, etc., in and around the uterus, and following his finger with his mind's eye and seeing destructive microbes and phlogogenic agents, producing thickening of the endometrium and tube linings, and by absorption into the uterine and adjacent cellular tissue, producing hypertrophy and lymphatic deposits, and finally some form of pelvic abscess, he concludes that the woman is correct in her diagnosis, and places a pessary against these inflamed surroundings to prop up the fallen womb. But if we accurately ascertain conditions we will first remove with the knife or curette all pus tubes, diseased mucous membrane, mucous polypi, cysts, blood clots, decaying placentæ, etc., and then by aid of proper cleansing washes, stimulating applications and dressings—such as the surgeon would use after operation for necroses, pus sinuses and diseased glands in other tissues and localities—we would endeavor to restore the part, as near as possible, to its normal condition.

Electricity is an agent of inestimable value in this restorative treatment. By its absorbing, stimulating and antiseptic action it lessens hypertrophy and congestion, giving tension to relaxed blood vessels and uterine supports, improves nutrition and combats toxic agents. The action of the tampon has already been alluded to. Copious hot water douches are cleansing, astringent, stimulating and soothing. Pessaries are occasionally useful, after all inflammatory

conditions have been removed, to support (in cases of unusual weight and lax ligaments or perineal support) while we are endeavoring to restore to a natural condition. Nor should hygiene, diet, physical exercise and mental diversion be overlooked, for constitutional vigor is necessary for repair, and though we repair any part, and do place our patients in that state of health which will enable them to combat and fortify themselves against disease, we but afford them temporary relief, and leave them in that state which will soon lead to like conditions to those of which we have just relieved them.

Art. V.—The Prognostic Value of Examinations—Abdominal, Vaginal and Pelvic—Before Labor.*

By W. A. H. COOP, M. D., Laurenceburg, Tenn.

The opinion is held by some of the most astute and erudite members of the medical profession, that the pregnant woman should be under the supervision of her intended accoucheur from the beginning to the end of her pregnancy, for by the adoption of this plan her attendant has the great advantage of noting any peculiarities in temperament, or any physical deviation from the normal; and this may be the key of his success in the future management of the case. The Committee on Essays has made it incumbent on me, and that somewhat under my protest, to bring before this meeting Some of the Advantages Accruing from Abdominal, Vaginal and Pelvic Examinations.

To be able to make a rational prognosis, is to make first a rational diagnosis; consequently our examinations must be diagnostic as well as prognostic. Conjoined examinations of the abdomen, vagina and pelvis may be the means by which the accoucheur may be able to prevent many of the difficulties, dangers and disastrous results of parturi-

* Read before the Middle Tennessee Medical Society at Nashville, Tenn , November 20 and 21, 1894, at its first regular session.

tion; and by these same auxiliaries be prepared to meet some of the most trying and momentous emergencies that the medical man has to face. There can be no doubt or question as to the inestimable value of such an acquaintance with the concomitant evils that jeopardize the pregnant woman, and the knowledge of the existence of such evils is consequently a great beacon to the medical attendant as well as a pivot about which the safety of the woman hangs.

It was J. Braxton Hicks, I believe, who first called attention to the alternate contractions and relaxations of the pregnant uterus, in the supposed function of aiding the physiological circulation of the blood in the uterine sinuses; and then later on, showed the great diagnostic value in the normal, extra uterine, and complicated pregnancy, by pointing out the practical application of the knowledge obtained by recognizing these intermittent contractions. If examinations are made before the fourth month, both internal and internal palpation are preferable; after this time, it is not so necessary.

In case of *pregnancy associated with fibroma,* we are enabled, by watching the contractions of the uterus, to distinguish generally, between the portion occupied by the pregnancy and that occupied by the tumor; but in case the tumors are numerous, and the pregnancy early, it is not so easy, and sometimes it is impossible to make the distinction.

Sometimes we are called on to diagnose between *ovarian tumor and pregnancy* at various periods. We are able to recognize the uterus easily when we find the tumor to alternate in solidity. Again, suppose there is pregnancy and ovarian tumor at the same time, we can readily distinguish one from the other, if one tumor alters its state of resistance.

In cases requiring us *to distinguish extra-uterine fœtation from normal pregnancy,* we have in the former case more difficulty, because our proof is negative. If it is suspected to be extra-uterine, then it is more easy. Suppose we have

a combination of the two, then a careful examination will, sooner or later, reveal which of them is the uterus.

In *twin pregnancies*, sometimes one is dead, or one small, one complicated by hydramnios, or whether it be a separate tumor; but when we find as the uterus contracts, to the variable parts, brought together, into one spheroid we may conclude that the whole is, within the uterus, when palpation and the stethoscope will reveal the contents. As may be expected, in cases from over distension of the uterus, as from hydramnios, we lose, to a large extent, these contractions; therefore, such conditions are difficult to distinguish from large ovarian cysts, but other means might determine here. And in case of a mole pregnancy, of the solid kind, we will often find a rigid contraction for days.

By percussing and palpating the abdomen together, with proper examination of the blood, we may distinguish between simple *anæmia*, attended with œdema gravidarum, from that curious disorder known as *leukæmia*, by finding the enlarged liver and spleen that usually attend the latter affection.

By discovering the weak and relaxed abdominal muscles, we may confidently predict *uterine inertia in labor*, with concomitant tedious labor, followed perhaps by post-partum hæmorrhage unless the proper treatment has been instituted.

The suspicion of the existence of any of the following named maladies may be raised or removed by examinations, to-wit: Ascites, hydramnios, uterine hydatids (*i. e.*, cystic degeneration of the villi of the chorion), placenta previa, ovarian tumor, uterine myomata, all malignant and inflammatory diseases of the vagina, pelvis, peritoneum and uterus, together with its appendages, and any condition that obstructs, in any way, the parturient canal, whether of the soft parts or the bony pelvis, and I think I may add, with propriety, those conditions which predispose to puerperal eclampsia, as well, perhaps, as many other conditions not mentioned here. An over sensitive vulva, vagina and os uteri are well-known factors in retarded labor, being

often attended with reflex spasm of the os uteri and much suffering. Malignant and inflammatory diseases are often concomitants of the pregnant state—affecting the vagina, uterus and pelvic viscera in such a way as to call for special attention. Cicatricial contractions, inflammatory adhesions and hereditary malformations of the vagina and vulva, should be known to the accoucheur. Gonococci are productive of harm in the pregnant woman, as well as in the non-pregnant woman; in the latter the most deplorable results are fearfully frequent, and that often without the least suspicion on the part of the innocent and wretched victim of any wrong doing. The said germ is responsible for some of the many cases of metritis, salpingitis and peritonitis following labor; and undoubtedly high grades of inflammation are kindled from latent or subacute foci of inflammation within the pelvis and peritoneum.

Malignant disease of the os uteri sometimes demands Cæsarian section, instead of the more doubtful method of incising the diseased os uteri, in order to deliver the woman. There can be no question but that the accoucheur should be acquainted with any and all deformities of the pelvis of his patient, whether hereditary or acquired, so as to meet the necessities of the case. The remissness of the medical profession caused an eminent author not long since to express himself in the following language: "That very few indeed attempt to realize the pernicious influence of spinal curvature and hip-joint diseases upon the contour of the pelvis; or try to acquire the art of pelvimetry, and yet these things belong to the A B C of practice. A knowledge of them should constitute the difference between an educated physician and an experienced monthly nurse. Lack of interest seems to be due to a sense of remoteness of contingencies which render such knowledge available. Artificial modes of life, the pressure of population in large cities, and an unprecedented immigration, are already working among us a perceptible increase in the causes of difficult labor; and with the departure of the old easy-going

order of things, comes a need of better equipment, and an increased sense of responsibility on the part of the medical attendant."

The question as to *what should be done where uterine myomata block up the pelvic outlet in cases of pregnancy*, was brought prominently before the Ninth International Medical Congress by Dr. S. H. Weeks, of Portland, Me. Answers from nine of thirteen most eminent and learned members of the profession, in response to what was best to be done in such cases, favored the production of premature labor or abortion; the four remaining favored letting the patient go to full term, and then delivering by one of the different methods of laparotomy at the very incipiency of labor.

Calculi in the urinary bladder may seriously complicate labor, especially if the concretions be large.

The conical cervix is likely to be attended with rigid os uteri in parturition.

As obliquity of the uterus sometimes interferes with labor, some sort of mechanical device, in the way of abdominal supporter, might be timely devised to correct the difficulty.

I am sure that many of the alarming, grave and disastrous contingencies, may, by the knowledge of their existence, be averted. When we are aware of conditions that are certain to greatly endanger the life of the patient, the most erudite skill, judgment and decision are often needed in order to meet the circumstances and to do the most good.

Not to be aware; therefore, of what are to be the concomitants of any given case of labor, is to divest the attendant of the prognostic value of abdominal, vaginal and pelvic examinations, and to place him face to face with some of the most apalling and unprovided for emergencies with which medical men have to meet. "Forewarned is to be forearmed."

Art. VI.—Eczema of the Legs.

By J. ABBOTT CANTRELL, M. D., Philadelphia, Pa.

Professor of Diseases of the Skin in the Philadelphia Polyclinic and College for Graduates in Medicine; Dermatologist to the Philadelphia Hospital and to the Southern Dispensary.

The result in the treatment of eczematous conditions of the legs depends upon several conditions: Whether we appreciate the manifestation; whether the parts are moist or dry, and whether there is much denudation of the parts. The occupation of the sufferer is to be taken into consideration, whether he is constantly on his feet, or compelled to remain standing in one place, or is he walking around, or pursues an occupation necessitating sedentary habits. The variety of eczema affecting this locality is likely to be papular, or where the condition has progressed, presenting the form known as eczema rubrum.

In the papular type we are likely to find distinct and discrete lesions; they may at times be found close together, and often seen to coalesce and form large patches. Before coalescing, however, especially when the disease is seen above the knees, they are likely to be covered with a blood crust, the itching being as a rule intense, for the relief of which the patient scratches and tears at the part, thus removing the tops of the lesions and not getting the relief sought for, but making the condition much worse.

When the papular variety occurs below the knees, it is more likely to coalesce than in the position just mentioned.

Occurring in the latter place, it generally exists on the anterior portion of the legs, directly in front of the tibia, and about its middle third, or it may be somewhat lower, as, for instance, just above the instep. In this position it is often aggravated by the foot wear, and, therefore, is likely to itch very much, as well as burn, becoming abraded and torn due to the scratching, so that we have a blood crust, and this, with the discharge from the diseased surface, makes the part very uncomfortable and distressing.

This condition is usually chronic, of weeks or months du-

ration, or years have perhaps passed since it was first noticed by the patient. As it may occur in the elderly we find it very much worse, and so much of it, if not attended to early and properly, will become almost a permanent distress; the sufferer will be in a bad position, as the disease will act as a constant menace to his comfort.

But it is the other variety—*eczema rubrum*—which we meet more usually in the elderly, or those who are constantly in a standing position, and these are the worst cases. These require the greatest care and persistent treatment until entirely cured.

Why is it that this disease is worse in this locality and in the classes just mentioned? Because when this part is affected by a diseased condition having the usual inflammatory character of an eczema, we have a large surface that may be involved, and are usually confronted with much œdema, and more than is generally seen when the disease is found elsewhere. Owing to the fact that this part is the most poorly nourished of the whole economy, we may have certain modifications, as, for instance, the swelling of the part, and its being a large one, we have usually a great portion of it involved.

Another modification which we often encounter is that of varicose veins; these may become very large, and often they are so small that they cannot be appreciated externally, but may be felt under the skin. Therefore, it can be seen, that with all these concomitant manifestations we are likely to have a very bad condition to treat.

When much discharge is present, we have still another disagreeable complication to contend with, and that is, in addition to the inflammation and swelling, we have the formation of a crust, which, upon being removed, shows a moist and weeping surface. One or both legs may be affected, or there may be only one or two patches on either or both legs. This condition is accompanied by deep red discoloration of the part. This locality alone may be involved, no other part showing it, although when occurring in young people it is usually found elsewhere.

When we have a varicose ulcer in conjunction with an eczema it makes the treatment much more complicated, and the result is not so easily attained. The eczema may be secondary to the ulcer or it may precede it; the latter is generally the rule.

In elderly people we may find much pigmentation after the removal of the inflammation, and as a rule this remains throughout the life of the individual.

Tight garters will often cause an ulcer, due to the compression of the veins, and thus not allowing the blood proper space to flow—the removal of all causes which may be of an exciting nature—as intestinal derangements, kidney complications, etc. The functions of these latter membranes or organs should be regulated by the use of magnesium sulphate, Carlsbad salts, Hunyadi or other waters, and by the careful and proper use of diuretics, such as the acetate of potassium, or such articles of diet as spinach or kale, which have diuretic properties.

It is our duty to remove all local excitants or complications, to give support to the enlarged veins, to look after the ulcer carefully and remove all œdema, to use a starch poultice, lotions to relieve the inflammation, such as washes of boric acid (saturated in water solution), the fluid extract of grindelia robusta (ʒij to the quart of water)—care being taken in the use of the latter, on account of producing more irritation than was previously present, as it is likely to do if not properly employed.

This is best accomplished by the application of one of the following ointments, and the proper support of the part afterwards by the use of bandages, muslin or rubber, or where it may be more advisable, the use of the silk or lace stocking. Care should always be exercised in the use of the silk or lace stocking. An ordinary stocking should be placed next to the skin first and then the prepared one, and thus keep the parts clean and free from any irritation that might arise from the coarse material.

In the treatment of the ulcerated portion, as well as the eczematous or diseased part, we must necessarily employ

antiseptic measures, and it is usually advisable to use remedies in the form of a dusting powder or as a lotion. I myself have used one of the following, both as a powder and as a lotion, very effectually: Alumnol, as a dusting powder of 20 per cent. strength, or as a lotion 10 to 20 per cent.; acetanilid, as a powder, from 25 to 50 per cent.; resorcin, as a powder of 5 to 10 per cent.; and with one of these I have had unusually good results.

Frequently we must give other treatment to the eczematous condition, and instead of giving the powder as above mentioned, I have used either of the following in ointment form with very beneficial effect:

℞.—Alumnol.....gr. xx
Ungt. zinci oxidi....
(Vel petrolati).....ʒiv.—M.

Or, ℞.—Acetanilid.....gr. x to xx
Ungt. zinci oxidi....
(Vel petrolati).....ʒiv.—M.

Or, ℞.—Resorcin.....gr. x to xx
Ungt. zinci oxidi....
(Vel lanolin) .....ʒiv.—M.

I have often made use of one of the following preparations to suit each case: as calomel, gr. x to gr. xxx; salicylic acid, gr. x to gr. xx; naptheline, gr. x to gr. xxx; thymol, gr. ij to gr. x to the ounce. It might often be well to make use of much stronger applications, but only after you have studied your case well.

Sometimes it will be found beneficial to make use of one of the sulphur or tar preparations, such as either of the following:

℞.—Sulphuris sublimati.....ʒj
Ungt. zinci oxidi.....ʒj—M.

Or, ℞.—Picis liquidæ.....ʒj
Ungt. zinci oxidi. .....
(Vel lanolin).....ʒj—M.

Or a combination of the preceding ingredients in one ointment, as follows:

℞.—Picis liquidæ.....
Sulphuris sublimati.....āā ʒj
Ungt. zinzi oxidi..... ʒj—M.

Ichthyol may often be used with decided advantage in the treatment of this disease when affecting this locality, and of its many manners of application I would advise the following:

℞.—Ichthyollis.....ʒj
Ungt. zinci oxidi.....
(Vel lanolin).....ʒj—M.

Or even ichthyol may be added to an ointment containing a small quantity of calomel, such as—

℞.—Ichthyollis.....ʒj
Hydragryri chloridi mitis.....gr. x
Ungt. zinci oxidi .....
Petrolati..... .....āā q. s.. ℥j.—M.

With these preparations, it will be found that the results of treatment will be decided and give the sufferer the desired cure.

315 *South Eighteenth St.*

Art. VII.—Foreign Bodies in the Larynx and Trachea, with Report of a Case Relieved by Tracheotomy.

By ROBERT GLASGOW, M. D., Lexington, Va.

Formerly Member Medical Examining Board of Virginia.

In the vast majority of cases foreign bodies gain access to the respiratory tract through the mouth, from which point they may fall by gravity into the larynx; or, as is more usually the case, be suddenly drawn in by an inspiratory effort. Having thus entered the air passage, its presence will likely give rise to symptoms of dyspnœa, violent cough, a reflex effort to dislodge the offending body, and expiratory efforts which, in some cases, may cause the expulsion of the foreign body. Such was the case when a pumpkin seed was thus expelled by a child seen by the writer. In other cases, however, depending on the size and shape of the foreign body, death from suffocation may occur before surgical relief can be procured. And in cases not accompanied by such alarm-

ing and suddenly fatal symptoms, the presence of the foreign body will in time bring about such inflammatory accidents as traumatic trachitis, bronchitis, pneumonitis, or abscess. One or more of which will, in all probability, cause the death of the individual.

When it is possible, of course, the indication of treatment in such cases is the removal of the foreign body. Sometimes this can be accomplished by a violent slap on the back during an expulsory effort. Again, when the foreign substance possesses a certain degree of weight, it may fall from the larynx by inverting the patient and have him sneeze or cough while in this position. This procedure, however, is not altogether free from danger, as thereby the foreign body might become impacted in the chink of the glottis and cut off the air supply.

Again, in some cases, when the body can, by reflected light, be located in the larynx, its removal by laryngeal forceps, in skilful hands, is an efficient and safe procedure. This is much more easily accomplished now, since the introduction of cocaine anæsthesia. These means having failed, our only recourse is in surgical interference.

The following case has recently come under my observation:

On January 25th, 1895, Eliza C., colored, came to my office about dark, with her 16 year old daughter, saying the latter had swallowed a bonnet pin about the size of one she presented, which was about 2½ inches long, with a large, round, black head, about the size of a buckshot. The girl showed some slight symptoms of dyspnœa, voice somewhat altered, with inclination to violent paroxysms of coughing. I suspected, of course, that the pin was in the larynx or trachea, and proceeded to make a laryngoscopic examination. The patient proved to have a throat very favorable to such examination, and I could readily see the head of the pin, lying some distance below the vocal cords, in the trachea, but could see neither the shaft nor point of the pin, and presumed they were below and hidden from view by the large black head. This, however, proved to be a mistake. The girl did not know whether it entered head or point downward.

I now inverted the patient, violently shaking her body; gave her snuff, causing her to sneeze, and had her cough while in this position. This was persisted in for some time, but proved unsuccessful. As there were no urgent symptoms, the patient was allowed to go home with instructions to come back the following morning.

On her return, she reported a fairly good night, with some coughing only; seemed more comfortable than at previous visit, the dyspnœa having disappeared. I looked in vain for the pin at this time, and could see neither the head nor shaft.

The next day she presented herself again, with the statement that the coughing had been very violent during the night, and she thought the pin had shifted its position, as she could feel it in another place. By this time her throat had become thoroughly tolerant of the mirror, and with a rather better light than on former occasions, I could see plainly the point of the pin, pointing upward and about on a level with the 4th or 5th tracheal ring. With the point thus located, and taking the pin's length to be as stated by the girl's mother, I judged the head was resting at or near the bifurcation of the trachea. Drs. A. D. Estell and Reid White, were now called in and confirmed the diagnosis.

The danger of the situation was now fully explained to mother and daughter, and an operation advised, as the only hope of relief. To this they both readily assented, and 1 P. M. of the same day was selected as the hour for the operation, the above named medical friends agreeing to meet me at that time, at the patient's home.

Chloroform having been administered and the patient in position, I observed that her neck appeared rather plump and prominent at this point We turned the patient downward, violently shaking her, hoping that the pin would gravitate nearer the glottis. Keeping the body thereafter so inclined that we might retain any advantage that might have resulted from this procedure, I now proceeded to do the "low operation," expecting to enter the trachea below the isthmus of the thyroid gland. When, however, my dissection brought me down to this gland, I found both of its lobes enlarged and adherent to each other, and overlying that part of the trachea I had expected to open. Venous hæmorrhage from the lower angle of the wound was very copious, the bleeding points being so inaccessible that I found it impossible to secure them by ligature, and had to resort to guaze pack and compress, by which means the hæmorrhage could be controlled.

Just here I will state that I was impressed with the importance, in doing this operation, of being on the lookout for the innominate artery, where it crosses the root of the neck. In this instance it was so exposed that I could grasp the vessel between my thumb and forefinger. Confronted with the two above mentioned obstacles, *i. e.*, the enlarged thyroid and hæmorrhage, the "low operation" was now deemed impracticable, and I decided to enter the windpipe above the isthmus. This I did, dividing the crico-thyroid membrane and cricoid cartilege. Introducing my little finger, I could feel no foreign body. I now introduced a pair of forceps, bent at an angle of 45 degrees. With these I could feel the pin, and without much difficulty succeeded in grasping it by the shaft, near its insertion into the head, and removing it.

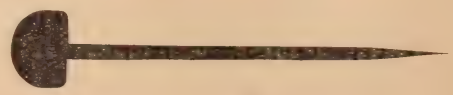
It was impossible, from the nature of the surroundings, to do a thoroughly aseptic operation. I now removed the tampon to find that the hæmorrhage had about ceased. The wound was irrigated and closed with interrupted sutures, and an antiseptic dry dressing applied.

On the third day the patient developed a temperature of 101½° F., and pulse of 130. This was found to be due to the presence of pus in the lower part of the wound, which necessitated the removal of the two lower sutures. Drainage having been thus established, these symptoms soon disappeared.

On the 9th day the remaining sutures were removed, when it was found that the entire wound had united, except a small gap in the lower angle, which was soon healed by granulation.

To grasp the pin as I did, just at its insertion into the head, required the introduction of the forceps to the depth of 3¼ inches below the opening. The length of the trachea being 4 inches, the head of the pin, at the time of operation, must have been 3¼ inches below the cricoid cartilege, and three-quarters of an inch above the bifurcation.

The accompanying cut shows the actual size of the pin, the measurements of which are 2¼ inches long; diameter of head, ⅜ inch.



Art. VIII.—The Treatment of Hæmorrhoids *

By H. R. COSTON M. D., of Fayettesville, Tenn.

The treatment of piles is essentially surgical. No medicinal treatment will cure a confirmed case of hæmorrhoids. There is a palliative surgical treatment and a radical surgical treatment. The palliative treatment consists in the applications of caustics, dilatation of the anus, injection of carbolic acid, or a host of other remedies intended to produce a shrinkage of the masses. Kelsey, in speaking of this treatment (*Annual Univer. Med. Sci.*, 1894, Vol. III., E. 4,), says: There is an entire "absence of any reference to carbolic acid" in the literature for the past year.

Allingham, in speaking of these palliative measures (*International Encyclop. of Surg.*, Vol. VI., page 132), says: "When they are not uncertain methods, they are dangerous, and occasionally they combine both danger and uncertainty of result." Wyeth (*Text-Book Surg.*) enumerates many serious objections to treatment by injections. Kelsey (*Hare's System Therapeutics*, Vol. II., page 1078), in speaking of the treatment by injection, says: "The relief obtained may last two or three years, after which, the condition will be the same as before." Again, the same author (*Therapeut. Gazette*, Clinical Lecture, April 15, 1893,) says: "There have been more deaths reported in this country from carbolic acid injections, in the last ten years, than from all of the radical operations combined. * * * You will soon learn that the moment you grow ambitious to cure by these palliative surgical measures, the measures will be found only ill-adapted to the purpose."

All authorities agree that only one pile should be treated at a time. Dr. J. D. Bryant (*Operat. Surgery*) says the treatment by injection is "often followed by abscesses and gangrene." Gerster (*Asep. and Antisep. Surg.*, page 168), says, "Aggravated cases can only be cured by operative measures." Treves (*Oper. Surg.*, Vol. II., page 688), says:

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* Read before the Lincoln County Medical Society, March 4th, 1895.

"Among the numerous operations * * * a certain number do not call for description. * * * Such are the treatment by caustics and acids, the injection of carbolic acid or other fluids, * * * etc."

We may characterize the injection treatment of hæmorrhoids, as Marcy (*Anat. and Surg. Treat. Hernia*, page 281,) does the subcutaneous treatment of hernia, as "blind surgery," and "blind surgery, as a rule, is bad surgery."

I would draw from the foregoing the following conclusions concerning the treatment of hæmorrhoids by injection:

1st. It is very slow in its effects.

2d. It is uncertain in its results.

3d. It is often dangerous.

4th. It may combine both danger and uncertainty.

It now remains to consider the radical measures applicable to the treatment and final cure of hæmorrhoids. Of these measures, we will only consider that by ligature and by the clamp and cautery. These are so prominently above all other radical operations for hæmorrhoids, that none other need scarcely be considered.

Of these two operations, my preference is very decidedly in favor of the clamp and cautery. "During the last five years there have been 137 cases operated on at the New York Post-Graduate Hospital, without a single bad result." (Kelsey, *N. Y. Med. Jour.*, December 8th, 1894.) What other method can be used on 137 consecutive cases with not a bad result of any kind? I may be allowed to introduce a personal letter from Dr. Kelsey in connection with the subject under consideration. His letter bears date of February 24th, 1895. He says: "I have practiced the clamp and cautery method exclusively, both in private and hospital practice, for ten or twelve years. The number of cases I cannot give without useless work in going over old case books—it is well up in the hundreds. I had no mortality or anything approaching it; no abscesses or severe ulcerations; no failure to cure satisfactorily, both to the patient and myself, and never a recurrence." I have seen Prof. Kelsey perform the operation a number of times, and its simplic-

ity, freedom from danger, rapidity of performance, and certainty of results, are sure to impress one favorably when once they have witnessed the operation.

Kelsey (*Annual Univ. Med. Sci.*, 1894, Vol. III.,) says: "The results leave nothing to be desired;" and comparing it with the ligature, he says: "It is found to give equally good results with much less pain and much shorter confinement to bed and house."

Lee (*Lancet*, 1893, *Year Book Treat.*, 1894,) points out the fact "that after the clamp and cautery operation no cause of irritation remains, and that repair begins at once." Now, in the operation by the ligature the stump has to slough off, and as there are sensitive nerve ends tied up in the stump, pain is, of necessity, present for several days.

Henry Smith has used the clamp and cautery for twenty-five years at the King's College Hospital, and "has never lost a patient. Hæmorrhage is a thing of the past, and pain was lessened or altogether abolished." Holmes' *Sys. Surg.*, Vol. II.)

Kelsey says the application of the cautery destroys in great part the "sensibility of the pedicle of the tumor removed." And further, that "there is less reflex irritation; that the catheter has to be used less frequently, and patients are altogether much more comfortable." (Kelsey, *Hare's Sys. Ther.*, Vol. II.) The same author says (*loc. cit.*): "I never refuse to allow a patient to dress himself and be about his room on the second day, and most of them prefer to do so."

Mathews (*Dis. Rect. and Anus*) objects to the clamp and cautery on the ground that they "look like instruments of torture to the patients." Nevertheless, he gives cases of secondary hæmorrhage following the ligature operation, but none following the clamp and cautery (*loc. cit.*).

Nancrede (Buck's *Ref. Hand-Book Med. Sci.*, Vol. III., page 477,) says: "While employing no one method of treating piles to the exclusion of others, we prefer the clamp and cautery."

Thomas Bryant says (*Prac. Surg.*, page 574): "When in-

ternal piles require removal, the clamp and cautery are the means I generally employ."

In support of my position that the use of the clamp and cautery is the operation par excellence for this disease, I wish to quote only one more authority—viz., Henry Smith, Assistant Surgeon King's College Hospital. He says (Holmes' *Sys. Surgery*, Vol. II., page 635): "I have now performed this operation in upwards of two hundred cases, and I can with truth state that if it be properly done there is hardly an element of danger in it. I have operated at all ages from puberty up to nearly eighty, and in instances of the utmost severity, in cases where the tumors have been immense, and when the patient's have been so thoroughly blanched by long continued bleeding, that one would not dare to perform any operation unless convinced of its absolute safety. I have not met with a single instance where secondary hæmorrhage has followed either the operation for hæmorrhoids or prolapsus."

Having seen the operation with the clamp and cautery performed many times, and having done the operation myself with perfect success, and having weighed the arguments of the authors cited above, I deduce the following *conclusions in favor of the clamp and cautery* in preference to the ligature in the treatment of piles:

1st. It is more certain in its results.

2d. There is less danger of secondary hæmorrhage.

3d. There is much less pain suffered by the patient during convalescence.

4th. Convalescence is much more quickly completed.

5th. There is no danger of a recurrence of the disease.

6th. There is no mortality connected with the operation.

I will now describe the operation as briefly as possible. The instruments necessary are: A good thermo-cautery apparatus (I use the Farny), a Kelsey or Smith pile clamp, a double tenaculum and a pair of scissors.

Have your patient's bowels thoroughly empty by the use of salines and large enemata. Anæsthetize your patient and place in the extreme lithotomy position; distend the

sphincter ani with your thumbs introduced back to back; this turns the piles out. Now grasp each tumor with your tenaculum, drawing it well down, and if the skin is involved make an incision at the muco-cutaneous junction; then grasp the pedicle of the tumor with your clamp and burn the tumor away with the cautery heated to a dull red heat. If the tumor is large it saves time to cut away the greater portion, only leaving sufficient stump for the thorough application of the cautery. If the skin is not involved it is useless to make an incision at the base of the tumor. The clamp should be slowly unscrewed and removed, following it carefully with the cautery, being careful not to disturb the eschar produced. Treat each tumor in like manner.

The after treatment is practically nil.

Art. IX.—Circumcision—Short Review of the Origin and History of this Custom.

By EDWIN L. MORGAN, M D., Washington, D. C.

The rite of circumcision is of great antiquity,[1] and has played an important part in the history of mankind, both in the past and present. The Bible[2] furnishes the earliest records of this subject, and the Egyptian ruins show, during the reign of [3] Rameses II, 1370 B. C., that this custom was observed. A bas-relief belonging to a temple shows two children being circumcised, and as Rameses was the founder of this small temple, the children being ten or twelve years of age, they are supposed to represent his boys. The upper part of the bas-relief is defaced, but the lower portion is in a perfect state of preservation, and the operator has evidently a stone knife or implement in his hand. From this ruin at

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[1]. *History of Circumcision.* P. C. Remondeno, M. D., pages 21–22.

[2]. Old Testament. Gen. xii; Josh. v: 2–9; Gen. xviii: 25.

[3]. Ancient History. Part I. The Eastern Nations and Greece. P. V. N. Myers.

Karnack, an accurate description of the Ramesian method can be written dating back to about 1370 B. C.

[5] "It is related in Gen. xvii that when Abram was ninety-nine years of age, he became a party on behalf of himself and his descendants to a covenant with his God; of this covenant the sign and condition was circumcision, which was directed to be performed (a peculiarity of Judaism) on the eighth day after birth." Abram was circumcised about 1896 B. C. Herbert Spencer says: [4] "Still more clearly have we the same implications in the ceremony by which the covenant is established. Abraham, and each of his male descendants and each of his male slaves, is circumcised. The mark of the covenant, observe, is to be borne not only by Abraham and those of his blood, but also by those of other blood whom he has bought. The mark is a strange one, and the extension of it is a strange one, if we assume it to be imposed by the Creator of the Universe, on a favored man and his descendants; and on this assumption it is no less strange that the one transgression for which every "soul shall be cut off," is not any crime, but a neglect of this rite.

Such a ceremony, however, insisted on by a living potentate under penalty of death, is not strange; for, as we shall hereafter see, circumcision is one of various mutilations imposed as marks on subject persons by terrestrial superiors." [7] Dr. Ebers[8*] says the children [8†] on the bas-relief of the temple of Chunsu, at Karnack,[8] are between six and ten years of age, "which agrees with the present custom in [9] Egypt,[9*] [10] where Mr. Lane[8*] tells us circumcision is generally per-

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[4] *Synthetic Philosophy. Principles of Sociology.* Vol. I, page 407 of Section 202.

[5] *Encyclopæd. Britannica.* Fred Stoddart Co., Vol. V, page 690. Circumcision.

[7] *Encyclopædia Britannia.* 9th ed. Stoddart Co., Vol. V, pages 690–691.

[8*] "Egyptian und die Bücher Mosis. Vol. I, pp. 278–284. Ebers."

[8] "*Modern Egyptians.*" Lane I, page 71.

[9] *Herodotus.* Transl. by Cary. London, MDCCC, liv, 11. Euterpe, page 108, "37." Antiquities of Israel, Eng. Trans., pages 89–97. Ewald, Old Testament.

[9*] "Budinger, Egyptische Einwirkungen auf Herbraische Culte, in *Berichte* of Vienna Academy."

[10] "*Ancient Egypt*, Sir Gardner Wilkinson, Vol. V, page 318."

[8†] "Chabas, *Revere Archeologique*, U. S., Vol. III, pages 298–300."

formed in the fifth or sixth year," being sometimes by peasants postponed until the twelfth, thirteenth and fourteenth year.

It has been asserted the priests were only operated upon, and the only early evidence on this point is that of origin. Possibly in that era, the Egyptians, like the later Jews, evaded this custom on account of the contempt and ridicule circumcision exposed them to. The operation as practiced by the Egytians, was not a rite, but, as Herodotus[10*] states, a sanitary measure. Both in ancient and modern times different opinions have been held as to the meaning of this ceremony. Wilkinson states positively that there is evidence to show circumcision was performed in Egypt before the immigration of the Hebrews—a myth, common to both Egyptians and Phœnicians,[11] "not of a very ancient date in its extant Egyptian form, which seems to bring circumcision into connection with the Sun-God."

In the *Book of the Dead*, chapter xvii, we read of "the blood which proceeded from the limb of the god Ra, when he wished to cut himself," which the late Vicomte de Rougè interpreted, with much plausibility, circumcision (*Revue Archéologique, nov. serie*, 1,244). And in a fragment of the Philonian Sanchoniathon (*Fragmenta Historicum Græcorum*, Miller III, 568, 569), "we find El circumcised his father, Uranos, or, according to a different version, himself. [12] Donnelly says it was "resorted to in Atlantean days, imposed as a religious duty." One of the Atlantean kings, "Ouranos, circumcised his whole army," and those of his allies, during a plague which the author of Atlantis [12 13 14 15 16 17] thinks was syphilis, which rite the colonies of this sunken continent carried into Europe, and not the disease. Donnelly states

[10*] *Herodotus Transl.* Cary., (Eng. ed.), page 108.
[11] *Encyclopædia Britannica.* 9th ed., Vol. V. Circumcision, pages 90–691.
[12] *Atlantis.* Donnelly, pages 1, 2, 3, 18, 6.
[13] *Pre-Adamites.* Alexander Winchell, LL. D., pages 379–382.
[14] *Ancient America.* Baldwin. Chap. vii, page 174.
[15] *North Americans of Antiquity.* John T. Short. Pages 143, 498–505.
[16] *Brasseur*, in Landas *Relacion*, page xxi, and Popol Vuh, chap. iii.
[17] *Prehistoric Races of the United States.* Foster. Pages 394–399.

Atlantis was the birthplace of civilization, both the new and old world being populated by these people, their oldest colony being Egypt, who, like the Athenians, repulsed their large armies which had conquered a greater part of Europe. He believes the Greek gods were Atlantean kings.

Winchell refers to these people as "Mongoloids," and, according to the advocates of this theory of Atlantis, they populated America, and the natives of Central America practiced circumcision. Therefore, from this standpoint we are indebted to them *for spreading syphilis, circumcision, making gunpowder, and as being the earliest printers, as claimed for the Chinese.* [18] Plato's ancestor, Solon, [19] lived 600 B. C., obtained information from the wise men of Sais, according to Plutarch, in regard to Atlantis, which was destroyed 9,000 B. C.—[20] the Guanches of the Canaries, being a remnant of the Mongoloid race of the lost continent. The Maya and other American nations had a tradition in regard to Atlantis and its destruction. Herodotus wrote in regard to circumcision [20] fourteen centuries after the Old Testament had been written, while Strabo and Diodorus wrote some centuries later in regard to this custom. [21] Herodotus says the rite is of Egptian origin, and "to have been admitted in Palestine, but he is probably only right, so far as the Phœnicians or Canaanites are concerned;" but Pythagoras and Herodotus may have written concerning this subject nine hundred years "after Moses had recorded his laws."

[22] Voltaire and certain Jews had a controversy, during which the Hebrews denied they borrowed circumcision from the Egyptians. The Jews claim the Phœnicians borrowed this rite from the Israelites. In the early history of Christianity there was a great dispute among the followers of Christ in regard to this custom. [24] There were two parties,

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[18] "Plato, *Yimaens* and *Critias*, ed. Stallbaum, 1838, t. vii, pages 99, 389. Jewett's translation of the *Dialogues of Plato*, Vol. II, pages 462, 519–521, 588, 599, 607." Winchell's *Pre-Adamites*, page 382.

[19] *Atlantis.* Donnelly, page 5.

[20] *History of Circumcision.* Remondino, pages 21, 23, 22.

[21] *Encyclopædia Britannica.* 9th ed. Stoddart Co., Vol. V. page 690.

[22] "Letters of Certain Jews to Monsieur Voltaire, Containing an Apology for their own People." Pages 451–476. Translated Lefaun, Philadelphia, 1848.

the disciples of St. Paul, [23] [24] [25] or "Pauline party," of Antioch, who represented the uncircumcised or Gentiles, who did not believe in the necessity of circumcision. St. Peter [23] [24] [25] and his followers observed the Mosaic rite; they represented the "Jewish party" of Jerusalem.

From an ethnological point, the ceremony was not specially a Semitic rite, being only used by the southern and western Semites, who no doubt borrowed it from the Egyptians, says one writer. [26] The Koran does not mention it, but a few authorities state it was a primitive custom to circumcise Arabian youths between the ages of ten and fifteen. [27] Pococke quotes "from the express statement of Ibu-al-Athir" that the facts already stated in regard to Arabia are true.

It is recorded the "preachers of Islam" carried this custom into Persia, India, and Turkey. History even mentions the Israelites obtained the rite of circumcision from the Arabians. The uncircumcised is a term of contempt used in the Old Testament, and is applied to the Philistines.

The circumcision of the Phœnicians, or Canaanites, has been disputed, but is attested by the writings of Herodotus, and biblical references. The mythology of the ancient Egyptians, in speaking of the death of Osiris, [28] [30] says [29] Typhon carried off the phallus of the deceased, and the subsequent action taken by his wife, Isis, which led to phallic worship. Thus Isis started the adoration of the white bull Apis. There has been a custom among many ancient and modern races or tribes to secure a [31] trophy from the body of a dead enemy. The American Indians, (*a*) Scythians, [32] [33] scalped their foe. Herodotus states, in regard to the

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[23] Synthetic Philosophy. Principles of Sociology. Herbert Spencer. Vol. I, Sec. 202; page 407. Appleton & Co., N. Y. 1892.
[24] Encyclopedia Britannica. 9th ed. Vol. XVIII, page 439.
[25] New Testament Col., ii chap., 12, 13 verses; Gal. ii chap. 1–10 verse.
[26] *Encyclopædia Britannica.* 9th ed., Vol. V, 690.
[27] "Pococke. *Specimen Hist. Arabum.* Page 319." Gen. xxxiv.
[28] *Atlantis.* Donnelly, pages 309, 406. [31], p. 209.
[29] *History of Circumcision.* Remondino, p. 28, 29. [34] p. 30.
[30] *Encyclopedia Britannica.* 9th ed., Vol. XVII; Mythology, p. 158.
[32] *Old Testament.* Psa. lxviii, 21.
[33] Catlin, Schoolcraft, Bancroft, and others, (*a*) "Paine's *Hist. Eng. Lit.*," p. 35.

Scythian, "he makes a cut round the head near the ears, and shakes the skull out." Dr. Remondino [34] gives a different version of this affair—the Scythian soldiers returning from battle with heads of their dead enemies. Abyssinians and a few negro tribes on the Guinea Coast carry away with them the phallus of the slain of the defeated in battle. [35] Spencer's version is as follows: "It was shown that among the Abyssinians the trophy taken by circumcision from an enemy's dead body, etc." [36] Among the modern Berbers it is still a practice for a young man, on proposing marriage, to exhibit to his prospective father-in-law the "virile members" of his dead foes. [37] Bergmann says the Israelites practiced these mutilations as David brought two hundred prepuces of the Philistines killed in battle to Saul, and he says it ought to read "two hundred virile members."

Remondino makes the following statement: "The Israelitish circumcision could have originated from either phallic worship or any hero; warrior usages is untenable as a proposition, as regards the living prisoners, and is contrary to the monotheistic idea which ruled Israel, or to the benign nature of their God."

[38] Professor Morman, of Brooklyn, does not believe phallic worship had anything to do with circumcision. According to some writers, the phallus was removed from prisoners, and in the course of time circumcision was resorted to instead, as a mark of slavery. Spencer conveys this idea also, in his "Sociology," and also Bergmann in his writings. Authors in their works in speaking of this rite, lay stress on the days selected by the Egyptians and Jews as to when to circumcise. *This proves nothing, and the point is not as to some particular day, but how did the custom originate, what race first performed circumcision? Are they necessarily the direct, or indirect, means of spreading the operation all over the world? Could not the rite of circumcision originate independently of the*

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[35] *Synthetic Philosophy.* Principles of Sociology. Vol. II, Sect. 362, p. 67.
[36] *History of Circumcision.* Remondino, pp. 30, 37, 31, 38, 26.
[37] *History of Circumcision.* Remondino, p. 31. [39] p. 28.
[38] *History of Circumcison..* Remondino, p. 26, [39] p. 28.

Hebrews, or Egyptians? Why not? [40] Cæsarian section is performed in Uganda, Central Africa, successfully, *in order to save both mother and child.* [41] Prehistoric Man of Europe trephined the skulls of the living for diseases of the brain, and of the dead, as a religious [42] ceremony. [43] The Incas operated upon the living for diseases of the calvarium and fractures of the same. I have seen a fractured skull, where the incision through the scalp (of the mummy) had been made during life, and the patient died evidently during the operation. This is a good example of ancient surgery. The natives of the South Sea Island [44] operated upon the heads of the living for diseases. The Australians operate upon the cervix, and perineum, cutting the latter down to the rectum. [45] They also, in order to prevent conception, perform an operation upon the male urethra, producing an artificial hypospadia.

Who taught them surgery? These operations all started independently, and for many different reasons. There causes were in the case of circumcision due to *religion, sanitary measures, slavery following war*, etc. As the savage is not so sensitive to pain, and the intense sufferings following injuries, as in the case of a highly civilized man, yet, no doubt, as Donnelly suggests, circumcision may date from the [46] stone age of Europe. "Pacolithic Man's" child, having suffered from diseases due to his long callery prepuce and filthy habits and surroundings, conceived the operation through some accidental injury to the infant, or boy. He operated for reflex neuroses, no doubt, in many cases. The savage has a reason for everything he does, be it good,

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[40] *Histoire des Accouchéments*, etc. G. J. Witkowski, p. 621.
[41] *Man Before Metals.* N. Joly, pp. 88, 87, 336, 338.
[42] Smithsonian Report, 1875. Art. by Henry Gilliman, pp. 234–245.
[43] Atlantis. Donnelly, p. 273.
[44] Annual of the Universal Med. Sciences Sajous, 1890. Art. by Gihon, Ep. 21.
[45] Med. Press., Feb. 21, 1894. Deformation of the Genital Organs. J. G. Garson.
[46] Primitive Man. Louis Figuier, p. 25–121.
[46] The World Before the Deluge. Louis Figuier, p. 409.
[46] Antiquity of Man. Lyell, pp 75–92.
[46] The Recent Origin of Man. James Southall, p. 86.
[46] Pre-Historic Times. Sir John Lubbock, pp. 2, 78, 423.

bad, or very foolish; and he is an observer and experimenter in medicine and surgery with success in many cases, as the operations described by me in my paper show a history of the surgery in the past and present.

Why could not circumcision for diseases, independently of the Jews, have been performed? We have seen that the Arabians circumcised before the advent of Mohammed, and they also perform a similar rite upon females. [47] In Egypt and Arabia a society of Mussulmen circumcise young girls at the age of seven years, and this consists in excising the clitoris by means of scissors, or pincers, as is the case at "Mossoul." A grown woman who has been educated abroad, on the birth of her child is operated upon. [47] In Morocco, says Correl, they go to school and get five children, who run through the streets holding a cloth to which is attached four eggs, chanting prayers as they hastily pass along the thoroughfares; great personages break and throw bottles of water upon this cloth. And on arriving at the Mosque, they join the procession. The child is usually from two to five years of age; is placed upon a richly saddled, bridled and caparisoned horse or mule. The members of the family surround the boy, carrying banners, etc., and an Arabian band (regardless of numbers) is composed of an alto clarionet and tamborines, playing outlandish tunes. The marching child's horse is preceded by a band of armed men, carrying guns, who from time to time execute a kind of war dance, and then discharge their arms. This ceremony takes place when a male child is circumcised. The Arabians, it is seen, perform this rite upon women, and also the Abyssinians operate upon females, as do the Egyptians in like manner. [48] The Arabians circumcise large numbers of boys, "regardless of the trifling differences in their ages." They have many other interesting ceremonies pertaining to this religious custom, which differ in details, as also is the case in Turkey. In Madagascar, it is claimed, the Arabs in early ages lived in this place, and they obtained

[47] Histoire des Accouchments, etc. G. J. Witkowski, p. 574.

[48] History of Circumcision. Remondino, pp. 37, 38, 39, [49] p. 40–41.

the operation from them. This is hardly true, so far as circumcision is concerned. [50] Another Arabian ceremony is, the father of the boy to be circumcised kills a sheep in his tent, and while the men are feasting, the women singing, surround an ornamented camel's saddle, placed in front of the entrance to the tent. The men [53] finally come out, mount their horses, lance in hand, riding three times around the saddle, and then engage in warlike games. [51] Most all of the Australians, except the tribes in Victoria, and New South Wales, practice circumcision; the age of the boy is eight who is to be circumcised. The circumcised [52] will not eat with the uncircumcised, and is performed as an act of cleanliness, and is one of importance when this operation is usually performed, as a mark of manhood.

The ceremony, [51] "Euritha," is a long, complicated piece of surgery, lasting weeks, that is used in cases of females. In [54] Madagascar since 1861, and probably some years previous, no general circumcision has been practiced. After and before the appointed time of performing this ancient custom, [54] there was great rejoicing, profligacy and crime. The prominent ceremonies were "the fetching of water," called "holy water," "strong water." There were amusements, dressing up in all their finery and jewels. At the time of operation, "benedictions and prayers are pronounced for the prosperity of the children." An address is made to them in public, exhorting them to be brave and faithful to their sovereign. Sheep and oxen are killed in a semi-sacrificial way; the blood of the animals is regarded as "possessing some degree of sanctity." An offering is made of bananas to avert evil, which are first placed on the children, and are supposed to carry away calamities to be feared, and are thrown away outside of the village as "devoted or accursed."

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[50] Social History of the Races of Mankind. A. Featherman, Fifth Division Aramæmans, pp. *380*, 17, 98, 155, 224, 254, 510, 633, 650.

[51] Medical Press, G. J. Garson, Feb. 21, 1894, p. 189. ("Notes on Deformities of the Genital Organs Practiced by the Natives of Australia.")

[52] Pre-Historic Times. Sir John Lubbock, p. 460.

[53] Social History of the Races of Mankind. A. Featherman, Fifth Division, Aramæmans, p. 380.

[54] "Magascar and Its People." James Sibree, Jun, pp. 238–239.

Feasting, dancing, and singing occupy their time, and a great many hours are thus wasted, and large sums of money are expended on these occasions. [55] The nobles have a more elaborate ceremony, especially a prince. The gourds, or water bottles, used are ornamented. A prince among the "Tanla, or forest people," has an expert spearman selected, to carry him to the appointed place to be circumcised. A [55] second spearman conceals himself, and as the child and its guardian leave the house, he hurls his spear at them; should he hit the man or child, he looses caste and is not a prince; and should both custodian and boy be killed, nothing is thought of it; but should they escape, he is known to be a prince. As before stated, the Madagascans are supposed to have gotten circumcision from the early Arabian settlers. In [56] Senegambia the rite is performed upon both sexes with superstitious observances. All [57] Bechnana and Caffre or Kafir tribes south of the Yambesi practice circumcision or *boguera*. Just at early dawn of day long rows of boys, fourteen years old, armed with sandals on their hands as shields, being faced by men with long, tough, and flexible wands; these naked individuals dance, and the men ask questions to the boys, then rush forward and shower savage blows upon them. The sandals only serve to bend the wands, which make deep gashes into the children's backs, and they dance as the blood squirts from their wounds, singing all the time. The second part of the ceremony is concealed from the public, and circumcision takes place in private.

This operation among these natives "is civil rather than a religious rite." One [58] authority says, in the Congo country boys are circumcised at eight and ten years old, living apart one month in a separate hut and undergoing a preparatory discipline. The Turks have interesting ceremo-

[55] *Madagascar.* The Great African Island. Rev. James Sibree, Jun., F. R. G. S., p. 217–223, 273–274.

[56] "Encyclopædia Britannica." 9th ed., Stoddart Co., Vol. XXI, p. —.

[57] Livingston's Travels and Researches in South Africa. Harper Bro., N. Y., 1858., pp. 164, 165.

[58] "Encyclopædia Britannica." 9th ed., Stoddart Co., Vol. VI, p. 237.

nies connected with their rite of circumcision. [59] There has been a [60] dispute among writers as to whether the ancient Mexicans [61] removed the prepuce; as they had a blood covenant, some claim the blood was taken from the prepuce. [61] Las Casas and Mendieta state circumcision was practiced by the Aztecs and Totomacs. [61] Brasseur de Bourbourg found evidences of it among the Mijes. According to Las Cases, on the twenty-eighth or twenty-ninth day, the child was circumcised in the temple by the priest; and in the case of females, he deflowered them with his finger, and the priest repeated the operation at the sixth year. [61] Mallet informs us the Mexicans cut off the ears and prepuces of the new-born. [61] Hierrera and Acosta confirms the statement of Clavigero, that the Mexicans drew blood from the prepuce. [61] "Pierre d'Angleria and other contemporary writers" state in the island of Cosmel, in Yucatan, seaboard along the Gulf of Mexico, and on the coast of Florida, they have seen the whole prepuce removed with a stone knife. [61] Gumilla, a Spanish monk, states the Saliva Indians of the Oronoco operate on the child on the eighth day. [62] Lord Kingsborough maintains [64] circumcision was performed on the eighth day, declaring it to have "prevailed thousands of leagues along the Atlantic, amongst nations very remote from each other, and who spoke very different languages." [61] Kingsborough believed the Mexicans were descendants of the [63] Jews. Teamas and the Manaos, on the Amazon circumcised [65] [65] boys. [66] Practically three distinct [67] races, the Australians, Papuans, New Caledonians, and people of the

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[59] The North Americans of Antiquity. John T. Short, p. 463.

[60] Mexican Antiquities. Lord Kingsborough, vol. vi, pp. 121–122; vol. vi, pp. 272, 333–335; vol. viii, pp. 143, 391, 20; vol. vi, p. 393; vol. viii, p. 155.

[61] "History of Circumcision." Remondino, pp. 46–48.

[62] The North Americans of Antiquity. Short, p. 463.

[63] The North Americans of Antiquity. Short, pp. 460–463.

[64] Bancroft's *Native Races*. Vol. iii, p. 429.

[65] Brinton's Mythology, p. 147. (Represented a. renunciation of the lusts of the flesh).

[66] "Encyclopædia Britannica." Vol. v, p. 690.

[67] Social History of the Races of Mankind. Featherman. Second Division. Melamæans' Papello and Maylo.

New Hebrides. This rite was performed by the Chippeways of North America, and also, as shown, in Central America among the Maya people. The Jews, in spite of all persecutions, for thousands of years circumcised their children, and in some cases even operated upon their dead, in order that the law of their forefathers might be kept. Phallic worship could not account for all cases of circumcision; neither war, slavery, or sanitary measures, for filthy races circumcise their children. Many causes led each and every nation independently to adopt this remarkable custom. The old Alexandrian library possibly contained amongst its priceless jewels of ancient literature some very old records antedating the account in the Old Testament.

It does not follow, as a fact, because circumcision is mentioned in the Old Testament that the Jews were the first to perform this rite and *operation of other races.*

It was not my intention to speak of the methods of operating, dangers and benefits to be derived therefrom.

ADDITIONAL REFERENCES.

Social History of the Races of Mankind. Second Division. Papuo and Malayo Malanesians. A. Featherman, pp. 147, 150, 151, 204, 207, 307, 320, 335, 354, 387, 418, 435, 453, 478.

Social History of the Races of Mankind. First Division. Nigritans, pp. 56, 154, 198, 224, 253. *305*, 623. 644, 656, 713, 724, 334, 374, 315, 566, 580, 600, 724, 736 (p. 713, Mandingos circumcise girls. Specific operation within vagina).

* Races of Mankind. Oscar Peschel, p. 22.

* "Von Martius, Ethnographie i," 582.

* "Herrera, Historia general, Dec. iv, lib. ix, cap. 181."

Cook's Voyages in the Australian Hemisphere, vol. iii, p. 156.

Physical History of Mankind. Prichard, vol. ii, p. 287.

Abbe Brasseur de Bourbourg's Writings.

Charles J. Montgomery, B. S., M. D., of Augusta, Ga.,

Has a very sensible article in *Medical News*, March 16th, 1895, on "The Effects of Tobacco Smoking in Moderation as Preventive of Pulmonary Disease."

Art. X.—Immunity.*

By MARK W. PEYSER, M. D, of Richmond, Va.,

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In the endeavor to solve the mysteries of health and disease, the rational practitioner dips into all knowledge. Should a barrier obstruct his way, he does not resort to the subterfuge of climbing over it (forgive the bull), or crawling beneath it; but with the implements of his science, the scalpel, microscope, and the apparatus of his laboratory, he drills holes, places in them powder (the results of his investigations), touches it with the fire of reasoning, blows up the obstacle, and proceeds toward the goal.

He rejects nothing that may be of benefit, whether it come from the eclectic, homœopath, or allopath. All realms are his. So if, in the course of this paper, I should refer to methods that have been associated with other practices, as distinctive of them, you, as rational medical men, will readily understand my reason.

The subject of this paper, immunity, is one that has engaged the attention of our profession from time immemorial, and especially has it done so since the discovery of the causation of infectious diseases. As with other things, where nothing positive is known, the theories advanced have been numerous. But before going into them, let us see what are the theories as to the causes of infectious diseases. 1. The microbes themselves. 2. The secretions or excretions of the microbes—leucomaines and ptomaines, or toxins and not the microbes.

Immunity may be natural, or it may be acquired.

Buchner, of Munich, in a lecture before the International Congress of Hygiene, said that natural immunity rests, on the one hand, upon the bactericidal potency of certain dissolved constituents of the body, the alexines; on the other

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*Read before Richmond Academy of Medicine and Surgery, March 26, 1895.

hand, on inherited insusceptibility of the tissues and cells of the body against particular bactericidal poisons.

The leucocytes, he says, play an important part in this natural protection, not through phagocytosis, but by means of the dissolved substances they secrete.

He would limit the term immunity to the acquired form; and the theories advanced as to this are:

1. The invading microbe takes from the human economy the elements necessary for its existence.

These elements are never replaced, and hence, when absorbed, the system is rendered refractory to the life and growth of similar microbes when presenting themselves to produce disease.

This is the "exhaustive theory," and concerning it Roosevelt (*N. Y. Med. Journal*, March 18, 1893,) says: "It would be hard to believe that this could be the case if provision were only made for the growth and nutrition of some *one species of germ;* but when we are called upon to believe that the majority of mankind come into the world with a separate and distinct "substance," suited to the needs of the micro-organisms of small-pox, measles, yellow fever, etc., the imagination is staggered and the reason revolts against such a preposterous idea."

2. The "antidote theory" supposes that microbes, after entrance into the body, produce a secretion (toxin), which is inimical to their own welfare. Von Ruck, of Asheville, N. C., in a paper on "What is Tuberculin?" (*N. Y. Medical Journal*, February 2, 1895,) says: "It is assumed that either through the products formed by the bacteria, or from their disintegration within the organism, the tissues of the previously infected organism become so modified that for a time their growth and multiplication are no longer possible, or that the organism tolerates the poisons which the bacteria produce, and thus the germs, although present, do not occasion the symptoms of disease."

Further on, he says: "There can be no doubt that the substances which destroy disease germs, or which confer im-

munity directly or indirectly, are contained either in the bacteria or in their secretion products."

In spite of this statement, one can say, with perfect correctness, that there is doubt concerning it. Von Ruck, in supporting it, makes the statement that a colony of germs in a test-tube, with suitable nutritious material, will, after a while, die out, but germs of a different kind may be introduced and survive for a considerable period. The antidote theory is also upheld by Baccigalupi in an elaborate discussion on "Immunity Through Leucomaines." Upon it is based the production of immunity and cure by injections of serum from animals rendered artificially immune, the presence of the so-called antitoxin producing the desired result.

Reasoning by analogy is here brought into play. The excretions of man, if retained in the economy, produce septic intoxication, and so the presence of their secretions render the infecting bacteria harmless. This may be plausible, but, as Roosevelt, in the article before referred to says: "We know of no organic compound which is not excreted or destroyed by the body within a short time after its introduction into the system." What goes on in the test tube is not always an index of what occurs in the system. Pepsin, for example, always acts beautifully in the former, but how often have we been disappointed in it in our practices. In the test-tube, too, the excretion products remain; in the system, they are carted away almost as soon as formed.

3. We come now to the third theory, and it may be termed the "survival of the fittest." In the contest between the invading bacteria and the body-cells, the weaker ones perish, the stronger survive. Later, we shall see how the latter behave. We may say here, however, that the law of inheritance is an important factor, the cells transmitting their increased power to their progeny, this bearing out one of Buchner's conditions—the congenital power of resistance in the tissues and cells of the body, which may apply to the cells as individuals as well as a whole.

Mr. Hankins, of Cambridge, Eng., remarks that immunity, whether natural or acquired, is due to the presence of

substances which are formed by the metabolism of the animal rather than by that of the microbes, and that they have the power to destroy either the microbes against which the immunity is possessed, or the products on which their pathogenic action depends." (Editorial *N. Y. Medical Journal*, August 11, 1894.)

Buchner, to whom we have referred, states that the immunity artificially acquired, or that acquired late in life, is due to the presence of modified bacterial products—the antitoxins.

The action of these is not directly upon bacterial products; but by modifying the organism, these enable it to resist specific poisons. This is a blow to the antidote theory; but yet, according to our lights, it is not correct.

Let me diverge a moment to tell you what Hughes and Carter, of Philadelphia, say: "It must be borne in mind that the production of a cure is not necessarily the production of immunity: cure and immunity may not be strictly synonymous. It is true that after the cure immunity follows, but may not the production of cure be merely a step in the production of immunity?"

For all practical purposes, we may say that in producing a cure we are also producing immunity, and the greater portion of the balance of this paper will be taken up with the results obtained by experiments and cures.

During the past four or five years, investigations have been in progress concerning the bactericidal properties of blood serum. Notable in this country pursuing this line are Vaughan, of Ann Arbor, and Aulde, of Philadelphia. The results obtained have been brilliant, have gone almost beyond calculation; and so if I should wander from the course which I have been directed to travel, I plead your forgiveness; for the by-paths are alluring and hold up beckoning fingers to tempt me to follow them.

Cellular therapy may, in the near future, be looked to for the solution of a number of riddles that are puzzling the practitioner. Its promises are plain and reasonable, its deductions naturally follow, and the results fully bear them

out. Aulde (*American Therapist*, December, 1892,) has defined it as "the name applied to the method in therapeutics of exhibiting properly selected medicaments with a view to the restoration of cell functions." Further on, he says, "The cells possessing specific functions are composed of protoplasm, and the proper performance of their functions depends on the integrity of the protoplasmic cells. Extra work thrown on them may lessen or temporarily suspend their activity; the ordinary stimulus may be insufficient to promote the customary and necessary anabolic and katabolic changes." In a reprint, entitled Diphtheria "Antitoxin," Schering, we find on page 10: "If treatment is only begun when the cells have already undergone the maximum amount of damage that they can bear, and when they need no further damage to die, we will effect nothing by the administration of even the largest doses of the antitoxin."

We saw that one condition of immunity depended on the bactericidal power of blood-serum. The question is, What is that power? On page 7 of the reprint referred to we see: "This latter (diphtheria bouillon) is either directly transformed into the antitoxin body, or *gives the impetus to the cells of the organism that causes them to produce it.* (The italics are mine).

In April, 1894, Aronson announced that he had obtained the antitoxins in solid form, describing them as white, soluble in water, more readily soluble in weak alkaline solutions, and giving all the reactions of albuminous principles. In September, 1893, Vaughan read a paper on "Immunity and Cure in the Infectious Diseases," before the Pan-American Medical Congress, and said that we must look for curative agents in these diseases in one or the other of the following classes: 1. *Non-poisonous* germicides of cellular origin. 2. Substances which stimulate the activity of those organs whose function it is to protect the body against disease. After a careful and critical study of investigations, he comes to the following conclusions:

1. The serum-albumin is not the germicidal substance in the blood-serum.

2. The germicidal substance must belong to the proteids.

3. The only proteid likely to be present in blood-serum, and which is not destroyed by peptic digestion, is nuclein.

Having reached these conclusions, he says the following questions naturally present themselves:

1. Is there a nuclein in blood-serum?

2. Has this nuclein, if there be any, germicidal properties?

We saw what Aronson did in 1894. Before this, Vaughan succeeded in isolating nuclein from blood-serum, and after a number of experiments with cultures of various germs, proved conclusively that it possessed marked germicidal properties. The nuclein may be obtained from an animal rendered immune to diphtheria, and a sufficient quantity injected into the blood or under the skin of a child suffering from diphtheria may effect a cure. ("The Nature of the Germicidal Constituent of Blood-Serum," read before the first Pan-American Medical Congress, September 5, 1893). Although Aronson did not state what his immunizing solid was, "he does not believe that they are identical with the immunizing substance which, according to Buchner and others, is found in the bacterial cultures." In the *Berliner Klinische Wochenschrift*, November 15, 1894, he criticizes the claim of Behring and Ehrlich, which explains the protective properties of the milk and blood by the theory of the destruction of the chemical poison produced in the disease (diphtheria).

Having determined that nuclein is the germicidal constituent of the blood-serum, let us find its source. Summers, of Waukesha, Mich., (*Virginia Medical Monthly*, December, 1894), says it is a general product of the multinuclear white corpuscles, differentiated from the protoplasm by their nucleus and nucleolus, and its function is to furnish material necessary for the nutrition of the tissues.

Vaughan, in an article on "Nucleins and Nuclein Therapy," read before the Illinois State Medical Society, said: "The nuclein is that constituent of the cell by virtue of which this histologic unit grows, develops and reproduces itself. It is the function of the nuclein of the cell to utilize

the pabulum within its reach. It must be evident that those tissues most abounding in cellular elements contain relatively the largest amounts of nuclein. It must also be seen that it is by virtue of their nuclein that the cells of various organs and organisms possess and manifest their individual peculiarities." Here, then, we have an explanation of the action of the organic extracts; isopathy it has been called.

According to Kirke, nuclein is an albuminoid or gelatin, differing from others of its class in containing phosphorus. Vaughan says they are complex proteid bodies.

Even after nuclein has been acted on by various substances, it recuperates and manifests its power. This is a valuable property, and shows its high degree of utility against microbes.

In her efforts to repair wounds or to preserve the integrity of the body against invading infection, nature establishes what is known as a leucocytosis. According to Carter, (*American Therapist*, October, 1894), this is a condition in which the total number of leucocytes in the blood is increased, usually being due to a disproportionate increase of the multinuclear variety, although exceptionally, one of the other varieties found in normal blood may be increased. Now, this condition exists in health after digestion, in pregnancy, in the new-born, after massage and cold baths. We therefore have an explanation of the good effects of massage, for besides the result of mechanical stimulation, it hurries into the circulation those cells which have been lagging—those which have been rolling sluggishly in the still layer of the capillaries. It has been found that vibration of a tube, containing bacterial cultures, will destroy them or render them weaker. Massage may have the same effect.

Another explanation of the beneficial effects of cold baths is given: the increase of white cells producing increased nuclein. In disease, we also have the production of leucocytoses. Osler says: "We would emphasize the fact that leucocytosis

occurs, as a rule, only in diseases which have a local reaction, and that its extent is proportionate to the latter; so that we are able to say *a priori* in a given infectious disease, whether or not a leucocytosis will exist. Thus, in a croupous pneumonia or suppurative pleurisy, there will be a leucocytosis proportionate to the extent of the lung or pleura involved; while in typhoid fever or malaria, where there is no marked local reaction, there will be little or no leucocytosis."

Aulde says, "to produce immunity we wish to establish an artificial leucocytosis, and we can do so by introducing into the system a small quantity of nuclein which acts as a ferment, not to supply a substance that is wanting, as pepsin and pancreatin, but in the belief that it acts as a stimulus, promoting cellular activity."

After making a number of experiments to determine the efficacy of nuclein in diphtheria, Vaughan draws the following conclusions:

1. Rabbits and guinea-pigs may be protected against virulent cultures of the diplococcus of pneumonia by previous treatment with hypodermic injections of a solution of yeast nuclein.

2. The immunity thus secured is not due to the action of the nuclein, as a germicide, directly.

3. The process of securing this immunity is an educational one, and, most probably, depends upon the stimulating effect of the nuclein upon some organ whose function it is to protect the body against bacterial invasion.

4. The longer the nuclein injections are continued, and the more frequently they are administered, the more complete is the immunity which is secured.

5. In order to obtain this immunity, the inoculation with the germ must follow soon after the last treatment with nuclein.

Besides its use in diphtheria, Vaughan has employed it in beginning tuberculosis; and others in cancer, dysentery, diarrhœa, malaria, and anæmia.

Brewer's yeast has been highly recommended for boils, most probably because of the nuclein in the yeast cells.

In connection with the third conclusion seen above, let me tell you what Kirke says: "From the peculiar manner in which the liver is supplied with much of the blood that flows though it, it is probable that this organ is excretory; . . . . . that it serves for the direct purification of the stream which has just gathered up various substances which may need to be expelled, almost immediately after their absorption. . . . . The liver, therefore, may be supposed placed in the only road by which such matters can pass unchanged into the general current, jealously to guard against their further progress, and turn them back again into an excretory channel." In an article on "Toxic Hypoleucocytosis," by Ewing, of New York, (*N. Y. Med. Journal*, March 2, 1895,) we see "the appearance of the hepatic capillary endothelial cells, both before and after the injection of bacteria, points to a possible function of the liver as the physiological scavenger of the body, and, in pathological conditions, as a special organ of phagocytosis."

Studying over the facts given in this paper, do we need to demonstrate what the active curative agent is in the blood-serum for diphtheria, pneumonia, tetanus, typhoid, small-pox; in the erysipelatous culture for sarcoma; in tuberculin for tuberculosis; in Pasteur's cure for hydrophobia; in vaccine virus? I think not.

It is said that antitoxin is effective in the proportion of 1 to 9,999,900. Aulde remarks: "If it be really so, then it is a wonder that it does not kill those subjected to it, for corrosive sublimate is effective only in the strength of 1 to 20,000 against spores."

Nuclein is our defensive proteid, and we have seen that it fulfils the conditions for which Vaughan said we must look, viz., a non-poisonous germicide of cellular origin which stimulates the activity of those organs whose function it is to protect against disease. Our most plausible theory of immunity, then, is the "survival of the fittest" cells to combat the invading microbes; and their power rests upon the

nuclein within them. If in the fight we see the cells are being vanquished, we furnish an ally in the form of nuclein.

I have not given the history of the study of the germicidal constituent of the serum; I have but incidentally touched upon its physiology and chemistry; I have, as it were, given you only a hint of the field, the gate of which is being slowly but surely opened to admit us and to allow us to view the flowers of health, cull and hand them to suffering humanity which "shall rise and call us blessed."

Nothing that I have told you is original with me. I have only sat, figuratively, at the feet of my masters and absorbed their teachings. If these shall have made an impression upon you, then I am fully repaid. I cannot close this more appropriately than by quoting the poet:

> "Yet I doubt not through the ages one increasing purpose runs;
> And the thoughts of men are widened with the process of the suns."

1222 *East Broad St.*

Clinical Reports.

Report of Two Cases—One Fatal; One Successful—of Diphtheria Treated with Antitoxin.*

By ELMER SOTHORON, A. B., M D., of Washington, D. C.

On the morning of December 30th, 1894, I was called to see Gretchen R., age 5 years, with the following symptoms: Pulse, 120—high tension; temperature, 102°; complained of throat being sore, and of swelling and pain below the angle of the lower jaw.

On examining the throat, I found both tonsils and part of the posterior part of the pharynx covered with that much dreaded ash-colored membrane. The mother informed me that the child had complained of sore throat several days previous, and had a slight chill that morning, before send-

* Read before Medical and Surgical Society of District of Columbia, January 14, 1895.

ing for me. I immediately realized that I had a bad case of diphtheria to deal with, and informed the parents of that fact. I had the younger sister removed to her grandfather's —all furniture, carpets, and pictures, with the exception of the iron bed, a few chairs, and a table, removed from the room.

The child was given quinine sulph. 2 grs. every three hours; a gargle composed of tinct ferri chl., potassii chl., aquæ, and glycerin, to be used every two hours. The throat was brushed with tinct. ferri chl. every three hours. Strict orders given to persuade the child to take plenty of nourishment of milk and different kinds of broth, and stimulants every three hours. This line of treatment was kept up until the first day of January, 1895, when I realized that the entire soft palate and posterior nares and uvula were becoming involved. There was excessive glandular enlargement.

Knowing that my little patient had always been a weak, anæmic child, one beloved by all her relations and friends, an affectionate playmate of my own little boy, I demanded a consultation.

On the evening of January 1st, Dr. S. S. Adams met me in consultation. He agreed with me as to the severity of the case and the unfavorable prognosis. We came to the conclusion that the only help we had was to use antitoxin, but where were we to obtain it? Through the kindness of Dr. Frank Hyatt, Dr. Adams was given an introduction to Rev. Mackay Smith, who had lately ordered a bottle of it, but did not have occasion to use it, and who most willingly placed it at our use

The same evening (January 1), 8:30 P. M., she was given an injection of 10 c. c. of antitoxin (Dr. Roux' formula), in the left abdominal region. Pulse at the time of injection, 108; regular, and of high tension; temperature, 100°. A sero-purulent discharge from the nose.

11:30 P. M.—Pulse, 120; high tension; temperature, 100°. Gargle of saturated solution of boracic acid ordered, to be used every two hours. Quinine sulph., 2 grs. given. Patient resting very easy; free discharge from nose.

January 2nd—2:30 A. M.—Awake and use gargle of hot sol. of boric acid.

4 A. M.—Resting well; gargle of sat. sol. of boric acid used. Breathing much easier. Pulse, 110; temperature, 99½°; respiration, 24. Has taken large quantity of milk during the night.

5:30 A. M.—Had large solid brownish action from the bowel. Use gargle of sat. sol. of boric acid, after which she passed into sound sleep.

7:15 A. M.—Use gargle of sat. sol. of boric acid.

9:15 A. M.—Use gargle of sat. sol. of boric acid.

January 2nd—10:30 A. M.—On examining the throat, we found membrane of soft palate and uvula lighter gray in color, and that on right tonsil white, with evidence of detachment at the margin. Respiration, easy; pulse, 116; tension good; temperature, 99°. Enlargement of cervical glands greatly diminished; culture tube prepared.

3:30 P. M.—Pulse, 114; respiration, easy; temperature, 99½°. Use gargle of sat. sol of boric acid, and used sat. sol. of boric acid for nasal wash. Right tonsil very white. No more enlargement of cervical glands.

7:30 P. M.—On examining throat, found entire right tonsil white; glandular swelling greatly diminished; patient very bright. She was given another injection of 10 c. c. of antitoxin, which she took very nicely. Passed 8 ounces of urine, which contained slight amount of albumen. Cervical glands much softer—less swelling. Used gargle of boric acid. Pulse, 110; good tension; temperature, 99°.

11:30 P. M.—Pulse, 114; temperature, 100°; respiration, easy, and resting well No enlargement of cervical glands. Used gargle and nasal wash.

January 3—10:30 A. M.—The nurse informed us that our patient had just passed about 4 ozs. of urine; large amount of albumen present. On examining throat, we found area of whiteness of membrane enlarging. Temperature, 99°; pulse, 114; good tension; respiration, easy.

3:20 P. M.—Pulse, 112; temperature, 99°; respiration, easy. Enlargement of cervical glands almost disappeared. Membrane beginning to detach; odor from throat worse. Has passed only 2 ounces of urine since morning.

7:30 P. M.—Nearly entire membrane white. Pulse, 118; temperature, 98½°; respiration, easy, and resting well; gargle of boric acid used; membrane detaching.

January 4th—10 A. M.—Temperature, 98⅖°; pulse, 114; lower tension. Large quantity of membrane detaching; slight oozing from tonsil. Slept sound during the night. Passed about 2 ounces of urine, consisting of large quantity of albumen. Vomited a quantity of partly digested blood. We realized that our patient was showing symptoms of uræmia. We had bottles of hot water placed around her body; the temperature of room kept between 80° and 90°

in order to keep the skin active, as she had a very irritated stomach. She was given $\frac{1}{25}$th gr. pilocarpin hypodermically. Large hot flaxseed poultice was placed to the small of back every hour.

5:30 P. M.—Pulse, 100; irregular, and of low tension; temperature, 98°; respiration, easy. Coughed up large pieces of membrane, and vomited a quantity of partly digested blood. The nurse informed me that she had a slight hæmorrhage an hour previous. She began to be unable to retain nourishment and stimulants on the stomach, which she had done so nicely up to the present time, and which gave us so much encouragement. We resorted to enemas of 2 ℥ of strong beef broth, with a teaspoonful of brandy every three hours.

January 5th—10:30 A. M.—Pulse, 88; tension poor; temperature, 98°. Had a passage from the bowel of digested blood. Hypodermic injection of $\frac{1}{100}$ gr. strychnine given. Unable to retain any nourishment on the stomach.

4:30 P. M.—Pulse, 104; slight increase of tension; temperature by rectum, 99°. Skin slightly more active: hot sponge bath given; vomited milk; no blood; oozing from tonsils stopped; throat looks clean; no membrane present.

7:30 P. M.—Pulse, 90: low tension, temperature, 99°, by the rectum. Hypodermic injection of strychnine, $\frac{1}{100}$ gr, given. No more hæmorrhage. All nourishment and stimulants given by rectum. Passed during the day 1 ounce of urine. Excessive quantity of albumen present.

11:30 P. M.—Skin dry—not active. Hypodermic injection of $\frac{1}{20}$ gr. of pilocarpin given; temperature by rectum, 100°; pulse, 110; fair tension.

January 6—12:30 A. M.—Asked for drink of water; did not retain it; pulse, 86; temperature, 98°, by rectum; skin more active.

10:30 A. M.—Pulse, 94, and low tension; temperature, 98°. Hypodermic injection of $\frac{1}{100}$ gr. strychnine given. Has passed no urine since 1 P. M. yesterday.

4.00 P. M.—Pulse, 110—not regular, and of low tension; temperature by rectum, 100°. Slept about two hours during afternoon; inclined to be restless. Hypodermic injection of $\frac{1}{100}$ gr. of strychnine given, after which she went to sleep.

5:30 P. M.—Awoke frightened, and screamed; had a convulsion; died 5:45 P. M.

Case II.—Mrs. R., age 24; mother of the child in the previous case; complained of throat feeling sore three days after the child was taken sick. On examining the throat,

I found both tonsils, uvula, and entire soft palate congested and very much swollen, but no membrane present. I advised her to go to bed, which she absolutely refused to do, showing that characteristic affection of all mothers by remaining at the bedside of her sick child.

She did not believe she had diphtheria, claiming she had tonsillitis, the result of a cold she had taken the previous night. Her throat was brushed every three hours with tinct. ferri chl. We kept her under close observation, expecting any time for the characteristic exudate to appear.

The next morning (January 5th), we noticed membrane on both tonsils. Culture tube was prepared, securing at the time a large piece of membrane; the tube sent to Dr. Walter Reed, of the U. S. Army Museum, who kindly made a microscopical examination of the membrane, and immediately pronounced it diphtheria, promising to send the result of examination of culture. I immediately returned to my patient's home, and gave her an injection of the remaining 5 c. c. of antitoxin which was left from the first case. Telegraphed to New York for another bottle.

Time of injection, 6:30 P. M. Pulse, 100; good tension; temperature, 99½°. Ordered spray of tri-kresol 1 per cent. sol. to be used every three hours, with a 6-grain atomizer. Throat brushed with tinct. ferri chl. night and morning. Passed during the day 10 ounces of urine. Large quantity of albumen present. Has taken large quantity of milk and stimulants during the day.

January 6—10:30 A. M.—On examining throat, we found both tonsils, uvula and soft palate covered with membrane. Pulse, 120; high tension; temperature, 100°. Patient complained of feeling weak; half ounce of whiskey ordered every three hours.

7:30 P. M.—Antitoxin had arrived; gave her injection of 15 c. c. in left abdominal region. Pulse at time of injection, 100; temperature, 99½°. Has taken lots of nourishment during the day. Menses appeared, which made her feel very weak.

January 7th—10:30 A. M.—Pulse, 100; temperature, 98½°. Membrane detaching; slight oozing. Throat brushed with tinct. ferri chl. An injection of X. C. C. of antitoxin given. No action from the bowels for the past twenty-four hours. Given 2 gr. calomel and 10 grs. of bicarb. soda. Throat sprayed every three hours with tri-kresol.

7:30 P. M.—Pulse, 110; high tension; temp., 99°. No action from bowel. Calomel and soda repeated. Has taken large quantity of milk, and perspired freely during the day.

Passed 20 oz. of urine during the past 24 hours. Large quantity of albumen present.

January 8th—10:30 A. M.—Pulse, 120; intermittent temp., 98½°. Large pieces of membrane coughed up. Had two large, yellow, semi-solid passages from the bowels. Throat sprayed every two hours with tri-kresol. Slept well during night. Desertspoonful of elix. quinine, iron and strychnine given three times a day; also half oz. of whiskey every three hours.

7:30 P. M.—Pulse, 110; high tension; temp., 99°. Has taken large quantity of milk. Perspired freely during the day.

January 9th—10:30 A. M.—Pulse, 106; not intermittent; temp., 98½°. Throat nearly free from membrane; no oozing. Elix. Q. I. & S. stopped; $\frac{1}{60}$ gr. of strychnine given three times a day. Rested well during the night. Twenty oz. of urine passed during previous twenty-four hours. Albumen present, but decreasing in quantity.

7:30 P. M.—Pulse, 100; fair tension; temp., 99°. Twenty drops of tinct. digitalis ordered three times a day. Had three semi-solid operations during the day.

January 10th—10:30 A. M.—Patient did not rest well during the night. Pulse, 98; high tension; temp. 98½°. Throat entirely free from membrane; no oozing. Passed 24 oz. of urine during past twenty-four hours; albumen decreasing. Has taken large quantity of nourishment and stimulants.

10:30 P. M.—Pulse, 115; high tension; temp., 99°. Had very quiet day; selpt two hours in the afternoon.

January 11th—10:30 A. M.—Pulse, 102; high tension; temp., 99°. Had three semi solid passages from bowels during past twenty-four hours. Slept well during night. Spray of tri-kresol used three times a day. Stimulant of whiskey taken every three hours.

7:30 P. M.—Temp., 98.6°; pulse, 90, good volume. Patient wants to sit up; says she feels well.

January 12th—10:30 A. M.—Pulse, 92; high tension; temp., 98⅖°. Slept well during the night. Passed 26 oz. of urine during past twenty-four hours; only slight trace of albumen present. Had three actions of the bowels in the last twenty-four hours. Tinct. digitalis gtt. xv. and strychnine $\frac{1}{60}$ grs., continued three times a day.

7:30 P. M.—Pulse, 94, regular and of high tension; temp., 98⅖°. Had a comfortable day, and has taken large quantity of nourishment.

January 13th—10:30 A. M.—Pulse, 90; high tension;

temp. 98⅖°. Slept through the whole night. Tonsils, fauces and soft palate assuming natural color. Has passed about 28 oz. of urine during past twenty-four hours; only slightest trace of albumen present. Had two natural passages from bowels in the last twenty-four hours.

7:30 P. M.—Pulse, 92; temp., 98⅖°. Had a very comfortable day. Want to know when she can get out of bed.

January 14th—10:30 A. M.—Pulse, 88, good volume; temp., 98⅖°. Had regular sleep during the night. Throat has lost all appearance of ever having diphtheritic exudate. One natural movement of bowels during past twenty-four hours. Anxious to assume her household duties.

These cases have been reported from honest notes taken by the nurse and myself. If we wish to test the true merits of antitoxin we must take into consideration cases resulting in death as well as those resulting in recovery, and not place before the profession a long list of recoveries, minus the records of those resulting fatally. I am confident that antitoxin did all that its discoverer claims for it, although in the first case our little patient died.

Twelve hours after the first injection there was marked decrease in the glandular swelling, and no increase in the exudation. Twelve hours after the second injection all of the usual bad throat symptoms had disappeared. Respiration easier and speech very much plainer.

There was no decided reaction following the injections. The only reaction noticeable was an increase of the pulse.

In the second case (Mrs. R.), complained of a feeling of warmth all over the upper part of her body after each injection.

All injections were made with the necessary antiseptic precautions. Place of injection and also syringe were thoroughly cleansed with a four per cent. solu. of carbolic acid. I am thoroughly convinced, from the constant bedside observations of these two cases and the perusal of all literature at hand on the subject, that antitoxin is a valuable remedy, one that is capable of doing a great deal of good if used in time and properly, but I do not believe it to be a "Cure All."

1921 *I Street, N. W.*

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M D., RICHMOND, VA,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary; Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va.

Case of Pulsating Tumor Occupying the Glabella and Adjacent Region.

In May, 1894, Mr. X., aged 18, had his gun to burst as he was in the act of firing it. The breech-pin was forced out and struck him in the forehead, about three-fourths of an inch above the root of the nose, almost exactly in the middle line.

This is the second case which has come to my knowledge where from the bursting of a gun the breech-pin has been thrown with great force against the face of the person firing the gun. In the *Virginia Medical Monthly*, August, 1891, is reported a case in which I removed from the nasal cavity the breech-pin of a gun. In this case the pin, in length $2\frac{3}{8}$ inches, the screw end measuring $1\frac{3}{4}$ inches in circumference, the pin weighing 495 grains, was driven through the superior maxillary bone of the left side, just below the nasal process; passed into the nasal cavity between the middle and inferior turbinate, directly through the lachrymal canal; struck the septum, which turned the course of the pin, and in the substance of which and parallel to its long axis the pin remained from 1888 to 1891.

In the case of Mr. X., the pin was driven through the outer and inner tables of the frontal bone. At the time of the accident, the pin and the particles of crushed bone were removed by Mr. X.'s surgeons. For three weeks following the accident, the patient lay unconscious He then regained his consciousness for a few days, to be followed by another three weeks, during which the patient lay in a semi-conscious state. At the end of this time, "an abscess burst in his nose," following which he rapidly regained consciousness and his strength, and in a short while was attending to all of his ordinary duties.

In September, Mr. X. began to complain that his head was

painful; a swelling appeared at the seat of the injury. This was opened by his surgeon, who removed from beneath the skin a piece of the patient's hat, which had been carried into the wound at the time of the explosion. This last operation in no way improved the patient's condition. The swelling became larger; symptoms of meningitis set in, accompanied by great suffering to the patient.

From September, 1894, until February 23, 1895, when the patient was brought to Richmond, to St. Luke's Hospital, and placed under the care of Dr. Hunter McGuire, the patient had been unable to get from his bed; had grown steadily worse, and for several days prior to his reaching Richmond the symptoms were those pointing to the appearance of some severe and final complication.

Through the kindness of Dr. McGuire, I was allowed to examine Mr. X., and to be present at the operation, which was undertaken by Dr. McGuire, as the only hope for a patient whose condition was already desperate.

Patient was seen by me February 23d. Pulse, 148; temp. (axilla), 100°. Patient lies on his back; is very weak; makes no effort to move himself, although there is no demonstrable paralysis. Eyes half closed. Patient has been for some weeks totally blind. Patient complains when pressure is made on right eye-ball, but offers no resistance to examination, after having been spoken to. Left eye:—swollen disk, retinal veins much increased in size. No visible hæmorrhages into fundus. Pupil dilated; does not respond to light. No paralysis of external muscles. *Right eye:—marked exophthalmos*; immovable; pupil widely dilated; does not respond to light; swollen disk. No corneal disturbances. No conjunctival œdema. Deep pressure with the finger shows a large, hard tumor projecting into the orbit from the upper inner wall. Examination of the nose: Left nose negative; right nose shows that the *middle turbinate is immensely enlarged, and is forced so far down into the nasal cavity as to nearly project into the nostril*, precluding further examination of this side. Posterior rhinoscopy impossible.

The most interesting feature of the case was a pulsating tumor covered only with skin, the bone having been removed at the time of the accident, occupying the glabella and the space above and to the side of it. In size, the tumor is about that of a walnut. In form, it is oblong;

long axis up and down. To the touch it is elastic, although but slightly compressible; cannot be forced into the brain cavity. *It is a pulsating tumor, a distinct pulsation being conveyed to it with each beat of the heart.* The skin covering it is not adherent. At the edges of the tumor can be felt the edges of the wound made in the bone at the time of the accident.

Question as to the nature of the tumor. In consideration of the facts that there had been an injury to the frontal sinus; that, from time to time, a discharge of pus had appeared in nose; that there existed an orbital tumor of frontal origin, it was thought most likely that the tumor was an abscess. It did not seem likely that the pressure exerted by this tumor on the frontal lobe could be the sole cause of the symptoms, and a complicating intra-cranial abscess, or meningitis, or both, were suggested. The history of the case, as obtained from the patient's mother, was too little accurate, and the patient's condition when he reached Richmond too desperate to allow any probable diagnosis between the possible intra-cranial complications of the abscess. Whether there was an abscess, epidural, subdural or frontal, or whether there was an extensive frontal meningitis, or the existence of thrombosis of the longitudinal sinus with septic complications (this last seemed little likely), the patient could be watched for too short a while to decide.

The operation was performed under chloroform on February 24th.

A bell-shaped incision was made through the skin, beginning above and to the left of the tumor, passing downward and outward nearly to the left supra-orbital notch, and then across the nose just above the nasion to near the right supra-orbital notch, from which point it ascended gradually inwards and upward to a point to the right, just above and external to the tumor. The skin of this area was then dissected off. It then became evident that it was useless to open the frontal sinus from below, as the whole sinus was filled with the tumor. The tumor was then opened by a longitudinal incision. It was found to be filled with a thick greenish-yellow pus. This was emptied. The pus sac

was then probed in all directions to see if there was any communication with the epi- or sub-dural space behind, or the ethmoidal cells below. No communication was found. From between the edge of the bone and the sac wall above and to the right protruded a thin mass of bruised tissue. As it was impossible to decide whether or not this was degenerated dura mater with brain tissue, it was decided merely to trim this and leave it in place. The sac wall being very thick, it was easily dissected from the surrounding tissue. It was found to be continuous below into the naso-frontal duct. This being so, a small probe was passed along the pedicle of the sac into the ethmoidal cells. The sac was then held out of the way, while a pair of large, bent forceps were forced, the probe acting as guide, into the ethmoidal cells, and the naso-frontal communication largely opened. The sac was then cut off, and a rubber tube was carried deeply into the nose and left there. The wound was packed with iodoform gauze, and the skin sewed together, save at the lower corners.

During the operation the patient spit up a considerable amount of pus, showing that the tumor, which could be felt within the orbit, had been opened into the ethmoid cells, whence the pus had escaped into the nose and thence into the throat. Towards the end of the operation the patient's pulse increased from 144—which it was at the beginning of the operation—into a running pulse, which it was impossible to count. At the end of about fifteen minutes a hypodermic injection of digitalis having been given, it fell to about 160, at which it remained. Slight tremors passed over body and limbs every few minutes.

February 24.—Patient, when aroused, answers questions intelligently, but shows no disposition to talk—asking, however, what the noise made by a wagon passing the window was. Pulse, 160; respiration, 32; temperature (axilla), 99°. Patient has complained of no pain.

February 25.—Patient died at 10 A. M., growing gradually weaker until his death.

An autopsy could not be obtained. The case, although many important details could not be gotten, has been considered worth the while to report.

The pulsating nature of the tumor, the fact that it lay directly over the anterior inferior end of the longitudinal sinus, and the fact that with a hypodermic syringe nothing could be withdrawn from its interior except blood, had

caused the diagnosis of "*venous aneurism*" to be made, which diagnosis, in turn, had prevented Mr. X.'s physicians from resorting to surgical interference. The possibility of a *cerebral hernia* had been suggested. The symptoms, however, made this suggestion little likely. The key to the proper understanding of the nature of this frontal tumor lay in the correct interpretation of the meaning of the protrusion of the left eye, the intra-nasal condition, and the fact that there had been at one time a discharge from the nose. This discharge was absent at the time the patient was brought to Richmond. The exact size and situation of the ethmoidal tumor, felt in the orbit and causing the exophathalmos it would be interesting to know. This tumor also contained pus, as was mentioned above.

This case suggests the importance, in cases of injury of the frontal sinus where there results a frontal abscess, of keeping the naso-frontal duct open, and of continuing active treatment of the frontal sinus until its membrane has been put into a healthy condition. The probabilities are that had Mr. X. been seen earlier, and had the operation as described above been done, the result would have been very different. As it was, the intra-cranial complications were, when the patient reached Richmond, of such a nature as to render of no avail the opening of the frontal abscess.

A Note on Extraction of Cataracts the Result of Intra-Ocular Inflammatory Processes. Reflex Cataract? Intra-Ocular Inflammation the Result of Intra-Ocular Changes.

In the *Virginia Medical Monthly* for August, 1894, under the heading "Note upon Vacuoles of the Lens," the following case was reported:

"In the case of Dr. M., aged 27, the vision O. D., began, without sensations of discomfort, to diminish in October, 1893, six months later $V=\frac{18}{70}$. Lens shows slight general clouding, with numerous bubbles throughout lens substance. Numerous speck deposits in Descemet's membrane. No demonstrable trouble of iris or ciliary region. No inflammatory appearance of eyes. O. S normal.

April 1st, 1894.—V., O. S.$=\frac{2}{50}$. No bubbles discernible

in the lens. General streaky clouding of lens. Deposit in Descemet's membrane gone.

July 15th, 1894.—V., O. S. Perception of light; cloudiness has extended throughout lens substance, save for an elbow-shaped canal, one and one-half mm. wide in anterior half of upper and outer quadrant; no cause for this condition of the lens could be found; no injury; no specific, no malarial or other cachexial history. (Dr. M. had suffered in 1893 from a long-neglected abscess at the root of one of the upper teeth. The possibility of such a thing as a reflex cataract?)

The eye was at no time inflamed, nor was there, at any time, except for the deposit in Descemet's membrane, any suggestion of involvement of the irido-ciliary region."

In November, 1894, the lens was clouded throughout its entire substance. Its removal was advised, and done without iridectomy. There was nothing to remark about the operation, except that there was no nucleus, the lens substance breaking down as soon as the capsule was opened, and coming away in milky flakes. Healing normal; round pupil. When seen in February, 1895, V, with a + 10 D. sph. c.—1 D. cyl. ax. 180°=$\frac{18}{15}$.

The above case brings up the question—Is there such a thing as cataract due to reflex causes? Can clouding of the lens ever be one of the reflex effects of continued peripheral irritation of some branch of the fifth nerve? Can cataract ever be the result of a trophic disturbance similar to that which, in some severe cases of neuralgia, causes the hair, over limited areas, to turn gray.

In the above case, the patient was under observation from October, 1893, until the removal of the cataract in November, 1894. During this time there was a progressive clouding of the lens, without accompanying intra-ocular inflammatory changes. The patient's age excluded the possibility of senile changes.

The absence of any general trouble, such as syphilis, diabetes, etc., is to be remarked. That there were no serious intra-ocular inflammation, such as choroiditis, neuro-retinitis, etc., the perfect vision obtained after the removal of the lens proves. The speck deposits in Descemet's membrane are to be commented on. During the whole time of their

presence, there was never the slightest sensation of discomfort about the eye; nor ever once the slightest evidences of inflammation, such as redness, pain on pressure, iritic exudation, etc. The patient has no recollection of his having ever received a blow upon this eye. Such, however, may have been the cause of the cataract, although it is little likely that a physician, having, for a year, been assistant to one of the foremost oculists in the United States, should have received a blow upon the eye sufficient to produce a cataract without having his attention drawn to his eye at the time the blow was received. The only diseased condition about the head was a long-neglected abscess of the alveolar process, connected with the root of a tooth. While this was present, there appeared a clouding of the lens. This, however, does not prove that there was any connection between the two; but, in the absence of demonstrable causes for the cataract, it allows us to ask the question—"Can cataract ever have as its cause continued irritation of a terminal filament of the fifth nerve?"

The amount of vision obtained after removal of the lens proved the absence of deep-seated changes in the fundus.

In this connection, it may be remarked that sometimes following the extraction of cataract there results a plastic iritis, the results of which are such extensive adhesions between iris and lens capsule that either glaucoma results, or there is such an occlusion of the pupil by thickened capsule that the extraction, although—as far as the technique of the operation was concerned—perfectly performed, fails to give useful vision. The failure of the operation in such cases is often not to be attributed to the lack of antiseptic precautions, but to the existence in the eye, at the time of the operation, of chronic inflammatory or degenerative processes. Take the following case as an example:

Miss W. has had poor vision since early childhood. When seen at the age of 28, the right eye had only perception of light; it showed a diffuse haziness of the lens, most marked at the centre. The fundus is visible, indistinctly, nothing

of especial note save some dilatation of the veins. The left eye counted fingers at a few feet. Here, again, there was much haziness of the lens, more than in O. D., most marked at the centre. The fundus, so far as could be made out, presented no changes. There were no signs of acute inflammation, such as redness, pain, etc., about the eye. Miss W. was a clinic patient. She disappeared after the first visit to reappear eighteen months later. The changes in the eyes during this period were little marked. Cloudiness of the lenses, which, however, allowed peripherally a view of the fundus. *Marked dilatation of the retinal veins.* Vision about the same as when last seen. Patient was now kept under active treatment for six months. Treatment consisted in mercurial inunctions, iodide of potash, and strychnine in large doses. No improvement of the vision. Only visible change was diminution in size of the retinal veins. As the left eye could count fingers at a few feet, and as the central clouding of the lens was too dense to allow central vision, an iridectomy was proposed.

The loss of vision in the right eye was clearly the result of neuritic inflammation, and not of the partially clouded lens, which clouding, in turn, was the result of some intraocular inflammatory process, probably chronic cyclitis. Whatever process had destroyed the sight in the right eye had also caused the clouding of the lens in the left. Although this was so, and although it did not seem likely that the neuritis in the left eye had subsided entirely—and from the patient's history this neuritis had existed indefinitely—an experiment was made, after six months of treatment, to see what effect upon the vision a small iridectomy would have.

Accordingly, under the usual antiseptic precautions, a small iridectomy—*i. e.*, the iris section extended into the iris tissue for only half the distance between the pupillary margin and the iris root—was done. There was nothing to remark about the operation. The eye was closed with a bichloride pad. That night the patient suffered severely from pain in the eye. Opiates were necessary to relieve the pain.

The following day a full-fledged plastic iritis was in existence. The papillary margin was covered with lymph. The corneal wound healed without trouble in a few days, and with no evidence of infiltration; while coincident with the plastic iritis was a plastic cyclitis, which, in spite of all treatment, kept the eye-ball very painful and inflamed for

several weeks. As a result of the iridectomy, there was more or less complete adhesion of the iris edge to the lens capsule and a marked diminution of the very poor vision the patient had before the operation.

It may be suggested that this irido-cyclitis was the result of septic matter introduced into the eye at the time of the operation. This is very little likely. In the first place, the early appearance of the irido-cyclitis is against this. Where, in a healthy eye, following a cataract extraction or an iridectomy there results from the introduction, at the time of the operation, of septic matter, a cyclitis, it does not reach the condition of a full-fledged inflammation within a few hours after the operation.

In the case of Miss W. there was present, at the time of the operation, a chronic, sub-acute inflammation of the ciliary region. This condition had existed since early childhood, and was, in all likelihood, one of the manifestations of an inherited diathesis, perhaps syphilitic. The appearance of the plastic irido-cyclitis after the small section of the iris is to be compared to those cases where, in children, an interstitial keratitis follows immediately upon a slight injury to the cornea, the inflammation resulting whether the injury caused an abrasion of the corneal surface or not—the introduction or non-introduction of septic matter, at the time of the injury, having nothing to do with the production of the resulting inflammation. Any interference with the circulation of the eye, resulting in an abnormal supply of blood to the ciliary region, producing temporary congestion, is liable to bring on this plastic irido-cyclitis in the one case; interstitial keratitis (with, perhaps, irido-cyclitis,) in the other.

Had an attempt been made in the case of Miss W. to extract the lens, or had a needle-operation been done in the lens, in all likelihood there would have resulted glaucoma, so great would the adhesions have been; and the character of the glaucoma such as to have necessitated the removal of the eye-ball.

In this connection may be mentioned a case whose his-

tory lends some little weight to the confirmation of the interpretation of the origin of glaucomatous inflammation following intra-ocular hæmorrhages, given in *Va. Medical Monthly*, p. 981, Jan., 1895: "Where the extravasation into the fundus is purely of the blood elements, it is not likely that the absorption of this extravasation will lead to glaucomatous symptoms; where, however, the extravasation consists not only of blood, but of a considerable number of particles of diseased choroidal tissue—in reality foreign bodies—their removal by the lymph tissue may produce glaucoma. These particles of diseased tissue * * set up an inflammation varying in degree, etc."

James X., aged 58, came to Richmond Eye Clinic in November, 1895. O. D. Chronic absolute glaucoma. The patient did not wish to have the eye-ball removed. An attempt was accordingly made to see if any temporary reduction of the tension could be produced by a retro-ciliary scleral incision, and if this could be done, an attempt was to be made to extract the lens, which was forced against the cornea. To make this incision, a cataract knife was used. The incision was made above to the outer side of the insertion of the superior rectus tendon. The incision was made large enough to insure some escape of the contents of the ball. What was the result of this incision? A simple absorption of the material thus escaping from the eye? No. There resulted an orbital cellulitis of such severity that it required about six weeks to subside; and while there was no pus formation, the œdema of the lids and orbital tissue with exophthalmos, was very great, and the source of much pain to the patient. It finally, however, all subsided, leaving the eye and the orbit, so far as we could judge, in the same condition they were before operation.

And the cause of this inflammation? The introduction of septic material into the orbital cellular tissue by means of the knife making the scleral incision? I do not think so. The precautions taken in all eye-operations were observed at the time of this one. *The orbital cellulitis was the result of the presence in the orbital cellular tissue of the broken-down products of choroidal degenerations escaping from the eye at the time of the scleral incision.*

As, in the cases of hæmorrhagic glaucoma, there results

first an irido-ciliary inflammation, then glaucoma, where the products of the diseased chorio-ciliary tissue are separated as the result of hæmorrhage—the degree of the inflammation and the duration of the glaucomatous attacks varying in accordance with the general condition of the eye and the amount of diseased tissue set free—so in this case the cellulitis was the direct result of the presence in the orbital tissue of particles of diseased chorio-ciliary tissue, which had escaped through the scleral wound.

The Board of Medical Examiners for the State of Oregon

Has been secured at last. It is to be composed of five practitioners, three of whom are to be members of the regular profession, one homœopath, and one eclectic, appointed by the Governor. There are to be two meetings a year—January and July. All heretofore licensed practitioners in that State are to be registered. Any who may hereafter desire to begin practice are to pass examinations on the usual branches of medicine. The fee for examination is $10. The Board has power to revoke license for "unprofessional conduct," which is defined as procuring abortion, employment of cappers or steerers, obtaining a fee for case of incurable disease, wilful betrayal of professional secrets, untruthful advertising, advertising medicines to re-establish the menses, moral turpitude, habitual intemperance. The regulars appointed by Governor Lord are Drs. Wm. H. Saylor, of Portland; W. A. Cusick, of Salem; W. E. Carll, of Oregon City. Dr. B. E. Miller, of Portland, is the Homœopath, and Dr. G. W. McConnell, of Newbery, is the Eclectic.

The National Association of Railway Surgeons

Will convene in Chicago May 1st, 2nd and 3rd. This will allow members to attend the session of the American Medical Association, to convene in Baltimore May 7th, 1895. The *Railway Surgeon* tells us that a number of excellent papers have already been promised by leading surgeons, and there is every prospect that the meeting will be profitable and business-like. Dr. W. B. Outten is a capital editor of the journal named.

Department of General Surgery.

Conducted by STUART McGUIRE, M. D., RICHMOND, VA.
One of the Surgeons to St. Luke's Home for the Sick and the Virginia Hospital; Professor of Principles of Surgery in the University College of Medicine, Richmond, Va

The Prejudice Against Unmarried Physicians.

No one can have read the charming autobiography of J. Marion Sims without being impressed by the difficulties and discouragements which confront a young doctor at the outset of his professional career. He, of course, realizes that he is inexperienced, and that owing to an accusing personal appearance he must plead guilty to the soft impeachment of being a young man, but he hopes that time will remedy both defects, and that by hard work well directed he will be able to demonstrate to the community the ability he feels he possesses.

So, appealing to his ambition for support, he sets patiently to work, only to find after four or five years that he is apparently confronted by another obstacle to success, one so absurd that it did not enter into his previous calculation—he is unmarried.

Almost daily in his practice some patient expresses the wish that he had a wife, and the constant repetition of "Why don't you get married?" forces him to consider the question, and to try to determine the grounds upon which the public objects to employing an unmarried physician.

The objection cannot be based upon a supposed lack of sympathy on the part of one who has no wife or child of his own, for even if a physician were employed for honeyed words and soothing looks rather than for nauseous but curative physic, the end would much more probably be obtained by employing a young man, than one with blunted feelings and shop-worn sensibilities from long familiarity and constant association with suffering.

The objection cannot be based upon the fear that professional confidences will not be regarded as sacred, and that the unmarried man will show less discretion than the happy

possessor of a trusted, but often foolish wife, into whose ears he pours the story of each day, with its doubts and fears, its anxieties and perplexities, its gossips and scandals.

The objection cannot be based upon the fear that the doctor will win the affection of his patient, and entangle her into a matrimonial alliance, for the same person whose presence is objectionable in the sick room is welcomed in the parlor, and his attentions are frequently received with flattering encouragement.

The only possible explanation left is one that is more than a reflection on the doctor's morals, and an objection that could not possibly be entertained of a physician, who except for his being unmarried, would willingly be intrusted with the life of the patient.

All things being equal, the unmarried man has many advantages over one who is married, and if possessed of equal health, industry, ability and opportunity is the better doctor of the two. He is his own master, his mind is not occupied by domestic cares, his interest is not divided between his work and his family, and his time can be wholly devoted to the study of disease, and the care of his patients. Medicine is an exacting mistress, and for her smiles and favors, demands singleness of purpose and undivided devotion.

Until matrimony shall prove itself a stimulus to mental development and a moral safeguard, it cannot possibly enter into the question. Certainly the history of medicine has not shown that the men who are married are either wiser or better than those who are single.

The doubt of the propriety of employing an unmarried man as the family physician is based upon more logical grounds than his civil condition. The real objection is his youth, supposed lack of experience, and the belief that his ability is not equal to others who have been longer in the profession. Often this fact is not appreciated by the perturbed head of the house, and when it is, consideration for the doctor's feelings, attributes the lack of confidence to his being unmarried, rather than to his being ignorant, it being

the most remedial evil of the two. The belief that there is a popular prejudice against an unmarried physician is a fallacy. Matrimony will not increase confidence in a man's professional ability, and he who enters into the bonds of holy wedlock for purely selfish or mercenary motives will receive a richly deserved disappointment.

A New Method of Approximating the Wound in Selected Cases of Abdominal Section by which Stitch Hole Abscess can be Prevented.

Stitch hole abscesses after abdominal sections are of frequent occurrence in the hand of the most careful operators. They cause fever, produce pain and discomfort, delay recovery, predispose to hernia, and with perhaps the exception of the death of the patient, do more to injure the reputation of a surgeon with the laity than any other complication which can occur.

Stitch hole abscesses are due to one of two causes, defective cleanliness or too great tension. The first should be guarded against by careful attention to aseptic details; the second by securing approximation of the wound without strangulation of the tissues.

When there is a considerable quantity of fat in the anterior abdominal wall, it is exceedingly difficult to coapt the surfaces of the wound without making pressure on the illy nourished adipose tissue sufficient to produce necrosis and the formation of an abscess, and although many expedients have been suggested by different surgeons to prevent this, so far they have proved ineffectual.

Some advise closing the wound with from four to six rows of buried sutures, but this consumes much time, and necessitates the use of cat-gut, a material whose sterility can never be relied upon. Some urge removing the fat interposed between the skin and the abdominal muscles by excising a V shaped piece, but this sacrifices tissue and produces an ugly sunken cicatrix. Others practice suturing the peritoneum and muscles with a single row of interrupted silk stitches, and then packing the wound with iodoform gauze and allowing it to heal by granulation, but

this gives a slow and tedious recovery, and exposes the patient to the danger of subsequent infection.

A method which I have recently practised is freer from objections than any of the foregoing, and has given excellent results The peritoneum, muscles and fascia are sutured with fine aseptic silk, and two broad strips of adhesive plaster are then applied on each side of the wound parallel to it, and half an inch from its margin. The wound is then approximated by attaching strings to the adhesive plaster at points opposite each other, and tying the ends together across the incision. By this means, the surfaces of the wound are brought into accurate contact, and no sutures constrict the tissue to cause pain or produce death.

Early Symptoms and Diagnosis of Tubercular Joint Disease.

The earliest symptoms of articular tuberculosis is stiffness of the joint, or a limitation of its normal movements. Within a limited radius motion is permissible, but beyond that hindrance is met with both in flexion and extension. This may be semi-voluntary from apprehension of pain on the part of the patient, but as a rule is caused by reflex contraction of muscles controlling the joint. If the joint is in the lower extremity, lameness or limping is produced.

The joint is almost invariably flexed, either from the patient placing it in that position as the one affording most relief, or from the fact that the flexor muscles are more powerful than the extensors, and when stimulated to contract overcome their antagonists and flex the joint.

Pain is a constant symptom, but varies greatly in intensity, its severity depending on the primary seat of the disease, and on the acuteness of the individual case. The pain may be confined to the joint, or may be referred, as in coxitis, to some other part of the body. Frequently there are noctural exacerbations of pain, which cause the patient to wake from sleep with a sudden cry, and this is more likely to occur in the early part of the night.

As the disease progresses, swelling of the joint becomes a decided symptom. The enlargement is more pronounced

when the synovial membrane is the primary seat of inflammation than when the initial lesion is in the bone. The swelling has a peculiar spindle shape, a characteristic white color, is more pronounced in superficial joints than in those more deeply seated, and is caused by effusion into the joints, the formation of granulation tissue, and the thickening of the capsule and para-articular tissue. In the more advanced stages of the disease, dislocation or marked deformity of the joint may occur, or abscesses and sinuses form. Tubercular troubles may be differentiated from other articular affections by their frequency, their insidiousness, their slight influence in the early stage on the general health, their proneness to attack children with "scrofulous diathesis," and by the fact that they usually involve only one joint.

Castration for Prostatic Enlargement.

In *The Journal of the American Medical Association* for March 9th, there is an article by Wm. T. Belfield, M. D., of Chicago, protesting against the indiscriminate application of castration for hypertrophy of the prostate. The writer says that the operation is so easy, and the relief afforded sometimes so great that some seem to have forgotten the existence of other means of relief, and that in several of the nineteen cases already reported complete relief should have been afforded by simple incision, or simpler puncture, or perhaps even by the catheter in a practised hand.

He says that while there is interesting analogy between uterine myoma and prostatic enlargement, there is one element which is an important clinical factor in prostatic hypertrophy which has no part in uterine myoma, namely inflammation. Castration may cause atrophy of glands, subsidence of swelling, and relief of distress in some cases, but where there is new formed connective tissue from inflammatory action, the operation will prove worthless.

If the argument ended here, the relative value of castration and supra-pubic cystotomy might be debatable, but there is another feature which makes castration as an operation for the relief of prostatic hypertrophy dangerous,

namely that the apparent hypertrophy of the prostate is not always the real cause of the troublesome symptoms. For example, it is a well-known fact, that enlargement of the prostatic gland is frequently accompanied by vesical calculi, which gives rise to pain and cystitis, and that in such bladders the stone may easily escape detection by the sound because concealed by the projecting prostate.

A mistaken diagnosis of simple prostatic enlargement is sometimes made when the real trouble is a less familiar condition, such as cancer, papilloma, tuberculosis, or concealed stone. Therefore, whenever a case of real or supposed prostatic enlargement demands operative relief, this should be done by incision into the bladder.

Modern Surgical Technique.

The Medical Record March 2nd contains an article by Henry O. Marcy, A. M., M. D., LL. D., of Boston, Mass., on "*Modern Surgical Technique.*" Dr. Marcy says the demonstration that fermentation, decomposition, and putrefaction were changes wrought by vital rather than chemical forces gives an entirely new phase to the subject of reparative processes in wounds, and that bacteriology has made possible a scientific basis for the formulation of the principles of wound treatment which has revolutionized modern surgery. He says that the danger likely to arise from operative procedures does not come as formerly from those who opposed aseptic precautions, but rather from the willing followers of modern teaching, who have but a superficial knowledge of surgical pathology, and in whose wearisome maze of seeming endless details the real principles are lost sight of, and disaster follows instead of triumphant victory.

Dr. Marcy says that the ritual of surgical technique must be learned in a painstaking manner, that it may become automatic in its application, as much as the speaking of correct English, since, as in speech, the mind should be dominated only by the central thought, and not be distracted by detail. When this is true, the disinfected hand will not seek

the pocket, the finger the ear or face, and the infected instrument or sponge will be discarded.

Dr. Marcy says that the greatest danger to a patient of infection is from the imperfect sterilization of the hands of the surgeon and his assistants, especially the deep parts of the skin beneath the finger nails. He advises the method of cleaning the hands employed in the Johns Hopkins Hospital, by means of the potassium-permanganate and oxalic acid solutions. This method has been proved by bacteriological tests to be the most perfect; but practically it does not give better results than that of Furbringer which consists in the use of hot water and green soap, alcohol, and 1 : 1000 solution of bi-chloride of mercury, and is more pleasant to the hands.

He says that gauze should usually be employed in place of marine sponge, as it can easily be rendered sterile by steam heating, and is entirely trustworthy. If sponges be used, they should be carefully prepared, and if contaminated by pus or septic matter, it is better to throw them away.

He says that the use of drainage tubes is a confessed acknowledgement that the operator lacks confidence in his ability to make and maintain a wound aseptic, and that it should only be employed in wounds that have already been infected; that it is an open door for the admission of possible infection, and always a source of danger.

In the control of hæmorrhages, he says that aseptic surgery has one of its most brilliant victories, and that secondary hæmorrhages the result of necrotic processes are now rarely seen. He says that he continued to use the atomizer after it had been shown that its disinfecting power was comparatively unimportant. This was done to saturate the air with moisture, and thus remove the dust; but a much simpler way to secure this condition, and one since substituted by him in his work, is to vigorously shake a sheet wet in a strong mercurial so'ution in the room, thus filling at once the air with finely subdivided particles of water, which in settling take down all the dust. He advises that instruments should be sterilized by the use of moist heat, either

by wrapping them in a cloth wrung from a one per cent solution of carbonate of soda, and placing them in an Arnold's sterilizer for five minutes, or by boiling them in a fish kettle. He advises irrigation of wounds in preference to the use of the sponge, as this keeps the operative field equally clean, and avoids injury to the tissues by friction. The solution he employs is a weak mercurial one, although he is aware of the fact that the normal saline solution is the one usually employed by other surgeons.

Dr. Marcy goes to extremes when he advises that the mouth of the operator and assistant be washed with carbolic solution, and a stream of oxygen gas be constantly passed over the wound to prevent infection from the breath, the researches of Tyndall having demonstrated that expired air is free from germs, and Schimmelbusch having proved that the breath of a septic patient cannot contaminate the atmosphere of a ward.

Dr. Marcy says that twenty-five years ago Sir Spencer Wells taught him the importance to the patient of operating in a hot room, and he attributes his success, especially in abdominal surgery, to keeping his patients warm. His operating table contains a false top, in which there is a recess which admits of a flat tin tank, which is filled with water heated to about 110°F.; a folded woolen blanket is placed over this on which the patient is laid, and after an hour the temperature is still over 100° F.

In commenting on Trendelenberg's position, he says that in many instances it is of great value, as blind surgery is bad surgery; and by this simple measure the entire pelvic basin and its contents are safely under the inspection of the operator. Unfortunately he has had two deaths, which he attributes to the position, as the autopsy showed no cause for the unfortunate results. This conclusion is scarcely logical. Possibly, had Dr. Marcy used chloroform instead of ether, he would have attributed the deaths to the anæsthetic. Ether does its fatal work insidiously, chloroform unmistakably.

Dr. Marcy summarizes his article in the following words:

"Recognize the infectious material as if it were a visible, palpable element. Based upon such knowledge, enter upon an intelligent sterilization of the patient, materials used, instruments, assistants, and by far the most important of all, the operating hands. Having made an aseptic operation, close the wound with buried tendon sutures and seal without drainage. This having been effected, the wound is safe, and the labor, care, and anxiety attendant upon all our earlier operative procedures for the ensuing weeks are entirely obviated. The work is ended when the patient leaves the operating room. Once mastered, the technique is really easy.

Science has not alone shown the safe and sure way toward recovery, but, as is usually the case, the really, in the end, easy path to pursue. Let the coming century find no practising surgeon who is not master of his surgical technique, as the high priest of a most sacred calling.

Almost unconsciously are we led to think of modern surgical technique as an art rather than a science. Let us accept it. Based upon scientific principles, the work should be artistic; a blundering surgeon may be aseptic, but this should never be an excuse for clumsiness. The true surgeon is skillful, which term means so much, full of that skill which makes his work really correctly automatic; like the master of a musical instrument, who through it pours forth the enraptured strains of soul-inspiring, moving power, with never the thought of hand or bow or string.

Anæsthesia and asepsis have brought into surgery a small army of men who lack the training which, half a century ago, was considered absolutely essential to success. Then to be a surgeon meant an apprenticeship. Should it be less at the present time? The greatest danger to-day lies in the willing, enthusiastic, but half-trained recruits with which our ranks are overcrowded. Here as elsewhere comes the law of the survival of the fittest, but at what fearful cost of life—matched, almost overshadowed, by self-condemnation which permits of no condonement!"

The recent address on surgery before the British Medical Association, by Mr. J. Grieg Smith, "The Art of the Surgeon," should be read by every student, by every surgeon. "That the art of surgery is teachable, there can be no dispute; that it is worth teaching, is still less disputable. Why, then, is it not taught? The art can be taught only in one way, the way of teaching all the plastic arts. The young artist

must, while beginning the practice of his art, have a master at his elbow, a master who will guide him in the use of his hand, his eye, his instrument; who will in the fullest sense make him his pupil and personally lead him on, step by step, toward such excellence in the art as he himself has attained. * * * We might ask to be put on a level with the fine arts, and seek for a Royal Academy of Surgery, as we have Royal Academies of Painting, Sculpture, and Music. To such an academy a school of teachers should be attached. The school would be a surgical hospital with every known excellence of hygiene and nursing and appliance. The teachers would be those who are superior in our art, the pupils men who are already qualified, who seek for practice in the higher walks of surgery! Then let us work for it."

A great art is not builded in a day. We profit from the experience of our predecessors. The coming generation will have much to criticise in the review of our labors. Let them also find themselves indebted to us for much experience of real value in both the science and the art of surgery."

In the Treatment of Nervous Diseases and General Debility,

McArthur's Syrup Hypophosphites demonstrates its restorative powers. It is not the stimulating action of the remedies usually classed as tonics that is needed. Hypophosphites of lime and soda give the much-needed effect in these conditions—not that of a stimulant by irritation, but that of a true nutriment to the starving tissues. Its tonic effects are permanent as they are the effects of a richer blood supply, bringing healthy food and oxygen to the tissues. Thus the patient is gradually brought up to his normal condition.

North Carolina Doctors to be Taxed.

According to the *N. C. Med. Jour.*, March 20th, "the doctors of this State must hereafter pay an annual tax of ten dollars into the State treasury for the privilege of practicing medicine! That is the edict of the mongrel Legislature which has been in session in Raleigh, and which has attracted the attention of the whole country by the many strange things they have done."

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M D., Atlanta, Ga.,
Lecturer on Dermatology, etc., in the Southern Medical College, Atlanta.

The Frequency and Prognosis of Posterior Urethritis

Is the subject of an article by C. H. Neebe, reviewed in the *Monatshifte für Prakt. Derm.*

Among 66 cases which Neebe examined after the Kohlmann irrigation method (5-glass test), there were 19 of posterior urethritis, or 28.8 per cent. against 47 of anterior, or 71.2 per cent.

Kohlmann's test, the resultof urethroscopic and pathologico-anatomical examinations, as well as clinical observation, all teach us that the diagnosis of posterior urethritis is made with unwarranted frequency. The most frequent seat of chronic urethritis is the anterior urethra. In only 3 out of 94 cases did the endoscope fail to reveal demonstrable pathological changes in the anterior urethra.

The author especially emphasized this because the majority of physicians are of the opinion that if a chronic blennorrhœa is very stubborn, the cause lies in the deep urethra, and that a cure depends upon the use of instillations, sounds and the anthropore. The much more affected anterior urethra will, therefore, be often neglected. It is the author's view that posterior urethritis will be rendered much less obstinate and rebellious to treatment if the anterior urethra receive proper and regular attention.

From his experience, Neebe agrees entirely with the view of Oberländer, who says "that chronic blennorrhœa of the posterior urethra is often recurrent because the principal seat, the anterior urethra, was not sufficiently treated—a fact to which those skilled in the use of the endoscope can testify."

The experience of F. Koch, of Breslau, is somewhat different. In urethritis posterior, three cardinal points must

be considered: (1), the diagnoses; (2), frequency; and (3), the time and the cause of the appearance of inflammation in the posterior urethra. Koch concerns himself principally with the two first named. He examined 141 cases in the Hospital Service of Jadassohn of Breslau, and reached the following conclusions:

1. The irrigation method of Lohustein is to be theoretically greeted as an advance, but it is not without sources of error.

2. That the results obtained therefrom do not materially differ from those of other methods previously employed, if the latter have been carefully carried out.

3. That the diagnosis of posterior urethritis can be established only on recognition of the gonococcus.

4. That there is a posterior urethritis in which the gonococcus can never be brought out, even in those infected for the first time.

5. That posterior urethritis has been established by them (Koch and Jadassohn) in 60–70 per cent. of all cases examined.

6. That the difference between the results of Kohlmann's method and that of Jadassohn and others depend, in part, upon difference in material used, and in part upon different ways of using the method.

Epithelioma of the Penis.

A negro boy, 16 years of age, was sent to me for diagnosis of a growth on, or rather of, the penis. Inspection revealed a large fungating mass about the size of a lemon occupying the position of the glans penis, which was lost in the growth. The mass had ruptured through the left side of its prepuce, which hung below, and was somewhat pushed to the right side of the mass.

The boy stated that some eighteen months ago he had noticed a persistent red spot on the inner side of the prepuce. This spot became red and ulcerated; the glans penis also ulcerated, and the new growth formed with considerable ra-

pidity. He had been somewhat phimotic, a condition by no means unusual.

The inguinal glands were somewhat enlarged. The general health was not much altered from the normal. I pronounced the growth an epithelioma, and advised amputation.

The boy was independently seen by Dr. J. McFadden Gaston, who also made the diagnosis of epithelioma, and removed the cancer by amputation of the penis, leaving two or more inches of stump as the organ was unusually large.

This case is of interest, owing to the comparative rarity of cancer in this situation, and on account of the age of the patient.

Dr. Edward Martin, of the University of Pennsylvania, publishes an article in the March number of the *Journal of Cutaneous and Genito-Urinary Diseases* on epithelioma of the penis, giving the literature of special points—*i. e.*, cause, prognosis, and treatment.

As to etiology, phimosis is placed first and traumatism next. Direct contagion is given as a cause. This is usually denied, though Macfarland has collected thirteen instances, and Sorel, Arnaudet, Cornil, Hahn, Fiessinger, and Guelliot, have all written on this subject. Jacobson quotes Bruce's case, where a man apparently contracted an epithelioma of the penis from his wife, who suffered and finally died of uterine cancer. Cases have been known of epithelioma developing on the cicatrices of syphilis.

The prognosis as regards recurrence and death should be guarded. Early operation, with extirpation of the glands, offers the best hope of cure. Dr. Martin concludes by calling attention to two points: that it is not justifiable positively to deny the possibility of contagion in epithelioma of the penis; and that when amputation of the penis is required, the inguinal glands should be dissected out, even if they be not appreciably enlarged.

Department of Electro-Therapeutics.

Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va.

In presenting to the readers of the *Virginia Medical Monthly* a department of electro-theraputics, it is our purpose to give them a monthly summary of the more important contributions to the literature of this branch of theraputics, and also to notice all improvements in apparatus and appliances.

In beginning our work in this direction it would seem that we could not do better than to present to our readers some extracts from a paper which, though a little old, is well worthy of reproduction. This paper is the President's Address delivered before the American Electro-therapeutic Association at its third annual meeting in Chicago, in September, 1893.

Influences Governing the Progress of Electro-Therapeutics.

Dr. A. H. Goelet, (*Trans. Amer. Electro-Therap. Asso.*, 1893) stated that the inauguration of this Association marks an event in medicine as important as any that has occurred within the present century, since it has established in a recognized position an important and long neglected branch of therapeutics. Its success is the evidence of its need. Its future usefulness is readily foreseen by the electro-therapeutist and the scientist.

There is an utter futility in presenting papers on electrical subjects, particularly technical ones, before other societies, since the spirit of true discussion is lost in unreasonable opposition to everything pertaining to electricity, or by feeble objections, devoid of argument and reason. This teaches nothing, profits no one. Reasonable opposition is wholesome and acts as a stimulus to investigation; but flat denials or personal contradictions on the part of those who know nothing of the subject, made apparently for the purpose of obstructing progress in scientific research,

will never succeed in settling a disputed one, nor add one iota towards that end.

The progress of electro-therapeutics is retarded by a want of appreciation by the profession, born of unfamiliarity with electro-physics and electro-physiology, which is in a great measure attributable to restricted medical education. This is gradually being overcome, but progress will be slow until medical colleges can be impressed with the importance of adding this branch to their curricula.

Electro-therapeutics cannot be appreciated or successfully applied without a thorough practical knowledge of the fundamental principle governing the action of electricity.

Restricted medical education has done more to retard the progress than anything else, because the physician who feels inclined to adopt it, knows nothing of the physics of the subject, and usually goes about learning it in the wrong way. Instead of familiarizing himself with the ground work or learning the technique, he commences by buying a battery and trying it on a patient. If he chances to succeed at first, he will be encouraged to continue, and may become impressed with the importance of learning something of the mysterious agent. This is learning electricity backwards. If he fails, he casts it aside as worthless and never loses an opportunity to decry it.

The medical graduate of the future may be more fortunate. He may be taught electro-physics and electro-physiology, and so be able to appreciate electro-therapeutics and use it intelligently. If all practicing physicians to-day possessed this knowledge they would, every one of them, use electricity in some form in their every day practice, instead of ignoring its advantages and allowing their patients to go to a specialist for this form of treatment.

The application of electricity is moreover regarded as complicated and troublesome. Drugs are employed in preference because their use involves no particular trouble or inconvenience to the attendant, and requires no special knowledge or training. There is no intelligent reason for their preferment, nor can their action be explained. They

accept the claims of the manufacturers without question. What is to be said of a man who considers his own convenience rather than the interests of his patients?

The prevalent opposition to modern electro-therapeutics is largely the result of the imperfections of past methods, which were certainly unscientific. Electro-therapeutics of to-day present a wide difference by comparison with electro-therapeutics of even five years ago. The advance has been truly remarkable, for within quite a recent period, any one who ventured to employ this agent in the treatment of disease or to express confidence in its capabilities was regarded as a charlatan. Now the electro-therapeutist occupies an exalted position in the eyes of all, save a few opponents who can see nothing good in something they do not understand.

To deny the value of electricity because of failure which may be due to a misconception, of its proper indication and application or to faulty apparatus or imperfect technique, is equivalent to condemning a drug because one sample was found to be inactive, or because it failed when unwisely used, to produce an effect.

To say, as some do, that its merit cannot be conceded, because the nature of its action cannot be comprehended, is an acknowledgment of mental inferiority not to be expected of a medical man in this progressive and enlightened age.

We must contend with opposition for the present. Eventually it will be overcome, but much depends upon the character of the work done by this Association, and upon the personality of its members.

The opponents of electricity may be divided into three classes, viz: Those who openly oppose it; those who profess not to believe in it, but use it because their patients desire it; and those who believe it capable of curing every ill flesh is heir to.

Of these, *the first class*, or its avowed opponents, are, by far, its feeblest enemies; their denunciation, an open confession of ignorance and an evidence of narrow minded-

ness, injures them more than the agent they so vainly endeavor to suppress.

The second class are very dangerous enemies. They use electricity, professing no faith in it, to please their patient. They claim to understand its application in all its details. Its use in their hands, though expertly employed (?), is destined to prove useless to the patient. If, by chance, the patient is benefitted, it is attributed to some agent coincidently employed. No cognizance is taken of actual effect produced, and if good effect is produced, it is carefully buried. Their interests are against electricity, and it would never do to admit anything in its favor.

The third class are, I believe, the greatest enemies. Electricity to them is a magic brand which, without why or wherefore, brushes aside all obstacles in the shape of disease. They show an entire disregard for pathologic condition or the cause operating to maintain it, trusting to the remedy to supply the place of brains. Their views carry them to extremes, and hold them up to the ridicule of sensible practitioners. This class must be suppressed, and it devolves on this Association to accomplish it. To defeat the second class is a more difficult matter. It can only be done by educating the masses to an appreciation of the advantages of electricity. They can then judge for themselves where to give the credit of a cure, and they will be able to decide who is competent to administer this agent properly. We need not concern ourselves with the first class. They will eventually accomplish their own destruction.

Medical Electrical Nomenclature.

Messrs. Houston and Kennelly criticise in the *New York Polyclinic* (September, 1894,) the usually employed classification of currents based upon former ideas in regard to different varieties of electrical fluids. This classification is as follows: 1. Faradic currents. 2. Galvanic currents. 3. Galvano-Faradic currents. 4. Franklinic currents. 5. Static induced currents. 6. The static breeze.

The chief objection to this classification of currents lies in

the attempt to characterize the current by the source which produces it. This would only be warranted were the electricity produced by any particular apparatus, guaranteed exclusively by that apparatus. These gentlemen offer as based upon more rational grounds the following classification to replace the one referred to:

Continuous currents	Uniform (1) (Galvanic.)	
	Pulsatory (2) (Some varieties of the galvano-faradic).	
Alternating currents	Symmetrical	Sinusoidal (3).
		Non Sinusoidal (4).
	Dis-symmetrical (5) (Faradic).	
Intermittent currents	Oscillatory (6) (Static induced).	
	Non Oscillatory (7) (Franklinic).	

Convective currents (8) (Static breeze).

All the different varieties of currents are here, as will be observed, included under the four main classes of continuous, alternating, intermittent and convective.

Continuous currents may be *uniform* or *pulsatory.*

A *uniform current* is produced by the action of a uniform electro-motive force as that of a Leclanche cell, or of a thermo couple, and corresponds to the galvanic current of the ordinary classification.

The *pulsatory current* is a variety of continuous current, which although always flowing in the same direction, is not uniform in strength. The E. M. F. of most continuous current dynamos are of this type.

Alternating currents, or currents which are periodically reversed in direction, may be symmetrical or dis-symmetrical.

Symmetrical alternating currents may be *sinusoidal* or *non-sinusoidal.*

The *dis-symmetrical alternating current* is the type of current produced by all faradic coils under the influence of vibrating contact breaker.

Intermittent currents may be oscillatory or non-oscillatory.

An *oscillatory current* is an alternating current, usually sinusoidal in type, but decaying in amplitude, each wave being of smaller amplitude than the preceding. Oscillatory currents, produced by the discharge of the Leyden jar, cor-

responds to the static-induced currents. They are of very brief duration, and of very high frequency, a whole series, of perhaps ten oscillations, being completed, in, say, the twenty-thousandth part of of a second.

Non-oscillatory intermittent currents are produced by discharges from influence machines through circuits unfavorable to the development of oscillations. Franklinic currents are of the non-oscillatory intermittent type.

The *convective current, or convective discharge*, is produced by the convection of electrified particles of air or other material. To this type belongs the static breeze.

The South Carolina State Medical Examining Board

Will meet in Columbia, S. C., "on the fourth Tuesday in April of each year" (April 23d, 1895). This State Board, under the law of 1894, has to "examine all applicants for examination who hold diplomas from any medical colleges or schools, and to pass upon their qualifications and fitness to practice medicine in this State." Fee, $5. Said Board shall keep "a record or register of all applicants for a license, together with his or her age, time spent in the study of medicine, and the names and locations of all institutions granting such applicants degrees or certificates of lectures in medicine or surgery." Applicants are allowed two hours to write their answers on each branch, and the department of medicine is divided into seven branches. Thus it requires practically two days for examination. Dr. C. F. McGahan, of Aiken, S. C., is Secretary and Treasurer; Dr. W. H. Nardin, President.

The Medical Association of Georgia

Will hold its Forty-sixth Annual Session in Savannah, Ga., April 17, 18, and 19, 1895. The Preliminary Program indicates an unusually interesting and profitable meeting. Dr. W. F. Westmoreland, of Atlanta, is President; Drs. R. H. Taylor, of Griffin, and W. Tate, are Vice-Presidents; Dr. E. C. Goodrich, of Augusta, Ga., Treasurer, and Dr. D. H. Howell, of Atlanta, Secretary.

Proceedings of Societies, Boards, etc.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Meeting January 14, 1895.

Dr. I. S. Stone in the chair. Present: Drs. J. V. Carraher, Boveé, Shaw, Sohon, E. L. Morgan, Moran, Bishop, J. Eliot, Mayfield, Stone, Vincent, J. D. Morgan, Sothoron, Hunt, McKimmie, Magruder, Cole, Muncaster, Neale, Maxey.

Dr. Elmer Suthoron read a paper entitled

Report of Two Cases of Diphtheria Treated with Antitoxin. [See page 84.]

DISCUSSION.

Dr. Samuel S. Adams was much interested in the subject, and was greatly obliged to Dr. Sothoron for the opportunity to speak in favor of the new treatment. They were the first cases presented in which he had been able to test the efficacy of antitoxin. The mortality from diphtheria is high, and during the fifteen years he had been engaged in practice, he had ample opportunity for testing the various forms of treatment. Before and about the time he had engaged in the practice of medicine, the bichloride treatment was pushed, then the solvent methods in which the membrane was dissolved; but under these the mortality was about the same. In children under two years of age he has never seen a case recover. It may be several months after, but the little patients will die. In one case occurring at the hospital, by stimulation, etc., he had kept the child alive about two months. Has for years thought, reasoning from the analogy of vaccination, that the system might at some time be fortified against diphtheria. In matters like this, one or two cases cannot decide. In his cases there was absolutely no reaction. The injections were given under antiseptic precautions; the syringe used was very large, holding about one hundred and sixty minims. The lump formed by the injection was absorbed in a few minutes; the fluid thick and tenacious. During the first injection there was no struggling, and the child seemed free from pain. After this, the child improved. The second injection was given at night. In giving this, the sensibility was marked, and the child's struggles had to be restrained. On the first culture tube Dr. Kenyon reported that it was not properly

done. On next day another tube was made, and a large piece of membrane was coughed up. This tube was filled with the Klebs-Loeffler bacillus. The pulse fell to eighty-four, uræmia was feared; boric acid had been sprayed into the throat, and possibly it was to this cause that the first tube was negative. When the membrane was removed the surface of the tonsil was free from abrasion, and there was no hæmorrhage. This patient died.

The second case—mother of the child; injections were used, and the effect was similar. This patient recovered. The Germans claim that antitoxin causes acute desquamative nephritis. This he has not seen. The injection used both on mother and child, was from the same source. In Dr. Reed's series of experiments on guinea-pigs, injecting into the ear, vagina and trachea, then inoculating with diphtheria cultures, the results were invariably in favor of those receiving the antitoxin. Injecting antitoxin into persons in health does not cause nephritis.

Dr. G. L. Magruder had no personal experience with antitoxin. Since Dr. Kenyon's return he had reported two cases founded on bacteriological examination; both ended in recovery. In conversation, Dr. Kenyon stated that his experience at the Childrens' Hospital made him an enthusiast. Thought it should be placed under the supervision of the authorities, thus guaranteeing uniform solutions and cheapness in price. Healthy horses must be selected, especially those free from tuberculosis. In the District of Columbia, there are a number of horses receiving the injection. Great care should be exercised in making the culture tubes, and cited a case in point. In a child sick with diphtheria he had made two culture tubes; both were reported as not containing the Klebs-Loeffler bacillus. The child became worse, and the mother, seeing the hopeless condition, suspended all medication, among which was the tincture of the chloride of iron and boracic acid. About an hour after medication had been stopped, he made another tube. This was reported as filled with the Klebs-Loeffler bacillus. From this case he would urge that when making tubes an interval should be allowed to elapse after making local applications before removing the membrane for culture purposes.

Dr. Clifton Mayfield said the reports of the two cases related to-night had impressed him greatly. Before nephritis could be attributed to the use of antitoxin, this condition should be found in numbers of cases, and not rest on the

report of comparatively few. In regard to the disappearance of the bacillus in making cultures, it seemed impossible that any should claim that it was due to the use of boric acid solution—a saturated solution of which contains about ten or twelve grains to the ounce.

Dr. Sohon fully agrees with Dr. Adams as to the inadequacy of the past and present modes of treatment. Though scientifically conceived and faithfully executed, they too often leave us helpless in our endeavors to save life. But now, when we are about to be inundated with reports of cases treated with the antitoxin, we must not lose sight of the fact, familiar to us all, that as the extremes of severity, we have on one hand cases that will end in recovery without any treatment; and on the other, cases that we know from our present standpoint, are devoid of danger from the beginning. Therefore, I was most impressed with the first of the cases. Because we have individual reports of a few recoveries, we should not at once give the credit to the antitoxin; but I am glad to hear the gentlemen say that in the first case, which was a severe and desperate one, they noticed, after the injections, an increase in sensibility, a betterment of the heart's action, and an improvement of the mental condition, showing that with this substance in the circulation, nature was enabled to attempt a last and better, even though feeble, fight against the diphtheria poison. The local changes reported to-night, we must not ascribe to the effects of the injections. It is not unusual for thick necrotic masses to be loosened, and for the remaining membrane to change color. The fight of the antitoxin is against the systemic poisoning thus achieved; the presence of the membrane becomes of secondary importance as long as it does not occlude the respiratory passages. The true value of the antitoxin can only be judged by the mortality in a great number of cases treated by the same person and under the same conditions. The foregoing reports are exceedingly favorable, and I hope this may prove what it promises to be—a boon to the profession and a blessing to mankind.

Dr. Oscar McKimmie urged the importance of Dr. Magruder's suggestion in regard to allowing a certain interval of time to elapse between making local applications and removing membrane for culture. Also, that the serum in the culture tubes should be fresh and not dried, as are some of the tubes in the drug stores, where they had been kept a long time.

Dr. E. L. Morgan read a paper entitled—

Circumcision—A Short Review of the Origin and History of this Custom. [See page 63.]

Discussion, on motion, was deferred until next meeting.

Meeting February 4, 1895.

Joint Discussion on Dr. G. M. Kober's Paper—"A Plea for Vaccination [See page 10],**" and Dr. John Walsh's Eruptions Following Vaccination.** [See page 24.]

Dr. J. D. Morgan said: General eruptions following vaccination occurs in about one-and-two-thirds per cent. of cases inoculated with vaccina or cow-pox. I have somewhat arbitrarily noted a percentage, as it is derived from a private list of some 90 recently vaccinated. My observations have led me to believe that the general eruption is always preceded by a greatly swollen condition of the vaccinated areas, with a localized plentiful vesico-pustular eruption and accompanying tenderness of the neighboring glands. There is anorexia, fever, and often disturbance of the digestive system.

On the ninth or tenth day from the vaccination there is a general erythema, followed in a few hours by a roseolar eruption, spreading over the entire body. This eruption is attended with itching and swelling, the face, hands and feet showing the principle ecchymosis. On irritation by the patient rubbing or scratching the part, it would immediately swell up, resembling the welts of urticaria. In one of my cases, a boy, aged two and a-half years, the back especially was literally covered with a vesico-pustular eruption; in another case of a little girl, a few years older, the eruption was general over the whole body and face, not pustular but more roseo-papular. In the case of the boy the eruption lasted about two weeks; in that of the girl, not longer than a week. The question of diagnosis is important, especially if there is at the time a frenzy which has been wrought by a few cases of scattered small-pox in the neighborhood. The absence of chill, backache, high fever, nausea, vomiting and characteristic eruption on face, with no history of exposure but one of recent vaccination, within nine or ten days before, will ease the mind of all concerned.

Dr. E. L. Morgan.—Dr. Mechea, in the *Union Medicale*, 1894, quoting from a book entitled "*Sacteya Grantham*," describes nine varieties of variola; and states that vaccination was practiced in India several thousand years before Christ.

Dr. F. Baret says: "Sanskrit text directs that the liquid from the pustule of a cow's teat, or from the arm of a human being, should be introduced into the arm of another; the fever of variola will be produced. The disease will be mild and require no remedies. One cut or as many as six may be made; the pustules are filled with a clear liquid, and surrounded by arid circle. May be slight fever of from one to three days, sometimes a chill, and swelling in the arm pit."

Surgeon Basu, in the Calcutta *Medical Reporter*, has a review of vaccination according to ancient Hindo literature, and in the *Asiatic Journal*, July to December, 1827, there is a reference to early inoculations in India; a great deal of ceremony was attached to the practice. The virus spoken of was variola.

Dr. Morgan had seen a number of vaccinations take on the leg after unsuccessful attempts on the arm. It is often delayed, and in himself it was two weeks. In a child had seen a scarlet rash. In Confederate army records it is recorded that as many as 2,500 inoculations were made from one man, and syphilis transferred thereby. As a rule, the Germans vaccinate in five places. Had any one seen reference to vaccination in the syphilitic, rheumatic, and typhoid fever subjects?

Dr. Boveè considers the danger of vaccination due mostly to dirt and extraneous matters coming in contact with the point of vaccination. The arm should be well cleansed with carbolic acid 1–50 solution. The virus may be septic or dirty instruments may be used. At the Washington Asylum he had within the last few months vaccinated at least twelve hundred persons. In his private practice he used as a precaution vaccination shields, cut in such a manner as to allow drainage and not allow the cup of the shield to fill up. Had but one case of sore arm in his private practice In regard to constitutional diseases in rheumatism and syphilis, he found that vaccination took nicely and with many even stronger than when these conditions were absent.

Dr. McKimmie.—Had seen a white child vaccinated on the arm; on the twelfth day there was a deep ulcer, the arm was swollen, the axillary glands enlarged. A number of papules were around the knees and would coalesce; at times macules about the size of a silver dollar formed. In thirty-six hours the eruption disappeared. In another case, a colored girl, age 20 years, vaccinated on the outer side of

the thigh and below the knee. In two months there appeared a hardness about the size of a silver dollar, then a ring ef vesicles similar to psoriasis commenced at point first inoculated. In his own person he had an eczema follow vaccination on the leg.

Dr. Bishop.—Had seen a child vaccinated ten days before; the chest was covered with a scarlet rash; there was no fever or headache. A young lady he had successfully vaccinated on the fifth attempt. In another he had two points of vaccination taking; the two points of inoculation were two weeks apart.

Dr. Sothoron.—Thought bad arms were generally due to scraping, if two large an ulcer forms. Again, often the virus is too wet, much water being used on the point; the serum that exudes during the scraping being sufficient to dissolve the lymph.

Dr. Mayfield.—Looked upon vaccination shield as an abomination, as the cup soon fills up and infects the sore. Dr. Boveè's suggestion might prevent this. Had used forty points of two weeks old; thirty took mostly on the eighth day. Another lot vaccinated with fresh points took on the second or third day. One of his nicest vaccinations was in a person who had had small-pox. Locality plays but little part, though one patient unsuccessfully on the arm took nicely on the leg.

Dr. Walsh could add nothing to the discussion just at this time; thought both papers *apropos.* It seemed almost impossible to think that in the present lights of science it would be necessary to plead for vaccination. Location on the arm is not essential, the leg will answer as well. Many are successful in being inoculated on re-vaccination.

Dr. Kober.—In answer to Dr. Hill, would say that, according to the Germans, five distinct vesicles constitute a successful vaccination; if there are less than four, re-vaccination is performed. A scar is not necessary proof of successful vaccination. The laws compel the patient to return on a certain day and have the arm inspected.

Discussion of Dr. E. L. Morgan's Paper on Circumcision. [See page 63.]

Dr. O. M. Muncaster was much interested in the subject. It commenced as a religious ceremony, and was early adopted by the Hebrews. They were earlier than Arabians and Egyptians. Donnelly speaks of its practice before the time of Atlantus. By the Jews the incised portion is introduced

into the mouth three times. The Australians removed the prepuce and slit it to the anus. This is only through the skin.

Dr. Carraher said the Jews had the rite performed as a prophylactic measure; could not discuss the history.

Dr. Boveè referred to cases of sexual desire. Spoke of removal of the cervix and ovaries. Related a case where clitoris was removed, but the desire was not lessened, and the woman became a prostitute. The sexual desires reside in the nervous system. Another case was a masturbator; the clitoris and part of the labia were removed; the uterus curretted for a chronic endometritis; there was no influence on the sexual feelings.

Dr. Stone referred to a case of a masturbator since eight years of age. On freeing an adherent prepuce, she was free from sexual desire for three weeks. This woman would masturbate along side of her husband.

Book Notices.

Treatise on General Pathology and its Relation to Practical Medicine. By CHARLES L. CARTER, M. D., Honorary Member of the St. Louis Medical Society, etc. *Second Edition Revised.* St. Louis: Woodward & Tiernan Printing Co. 1891. Cloth. 8vo. Pp. 157.

Just as we sometimes sit on a fence-rail near the Court-house steps on County Court day and talk about personal views, etc, that have no particular value to the country at large, so the reader may take interest in this book. The author claims for his production that "it is written from a standpoint totally independent of the censorship of creeds, schools, and traditions," and unquestionably it has this appearance. Quoting from the author: "The great barrier to science is that some observers are too theoretical." It may not be that the action of mercury in syphilis, or as an alterative tonic in other conditions, is understood, but who, that has properly used it, doubts its value? "There are more things in heaven and in earth than thou ever dreamst of." The book is without an index.

A Manual of Bandaging. *Adapted for Self-Instruction.* By C. HENRI LEONARD, A. M , M. D., Professor of the Medical and Surgical Diseases of Women and Clinical Gynæcology, Detroit College of Medicine. Sixth edition, *with 139 Engravings.* Cloth. 8vo. 189 pages. Price, $1.50. The Illustrated Medical Journal Co., Publishers, Detroit, Mich.

The main feature for commendation of this book is that each illustration shows the direction of the various turns of the bandage with arrow-heads, and each turn is properly numbered; this renders the book a self-instructor to the reader who has but to put the various bandages about the limbs of an office companion a few times, when the "trick" of its application upon a patient has been learned. It takes the place, in this way, of hospital drill. Besides the "Roller Bandages," the various Ts "Cravats," "Slings," "Tailed," "Adhesive," and "Plaster" bandages, and "Immovable Dressings," are given. The book is divided into sections treating of "The Bandages of the Head," of "The Body," of "The Upper Extremity," of "The Lower Extremity," "Knots," "Strappings," "Compresses," and "Poultices," with full description of making and applying the same. There is an illustration for nearly every bandage described. It has been recommended as a text-book in various medical colleges and hospitals, and has had two editions sold abroad.

Dose-Book and Manual of Prescription Writing. By E. Q. THORNTON, M. D., Ph. G., Demonstrator of Therapeutics, Jefferson Medical College of Philadelphia. etc. Philadelphia: W. B. Saunders, 1895. Small 8vo. Pp. 314. $1.25 net. (From Publisher.)

The experience of Mr. Saunders as publisher of the popular series of "Question Compends" has developed the fact that there is a demand for practical "self-helps," as he calls them, for students and practitioners. In noticing Raymond's *Physiology* and Da Costa's *Surgery—General and Operative*, we had occasion to remark that these volumes of "*Saunders' New Aid Series*" most nearly supply this desideratum. Now we have to add Dr. Thornton's *Dose-Book and Manual of Prescription-Writing*—so far as its special field is concerned. It has "a list of the official drugs and preparations, and also many of the newer remedies now frequently used, with their doses." The book is useful to the undergraduate, to the teacher, to the young practitioner, and is a frequently serviceable book for reference to the elder doctor.

Obstetric Surgery. By EGBERT H. GRANDIN, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc., and GEORGE W. JARMAN, M. D., Obstetric Surgeon to the New York Maternity Hospital, etc. *With Eighty-five Illustrations in the Text and Fifteen fullpage-Photographic Plates.* Royal 8vo. 220 pages. Extra Cloth, $2.50, net. Philadelphia: The F. A. Davis Co., Publishers. 1894.

No practitioner can examine this book without the remark, "This is what I wanted"—a plain, practical illustrated statement of what is constantly being met with in obstetric practice, and how best to meet the difficulties. The photographs with the text make the descriptions as plain almost as the favored few at the bedside of a clinic being conducted by a master of the obstetric art. How to examine the patient, how to turn the child, how to apply the forceps, how to do Cæsarian section, symphysiotomy, embryotomy, etc., are all well described. It is a capital book for all general practitioners who have obstetric practice. Technicalities that confuse are almost altogether omitted in descriptions. It is a better book for practitioners than for mere college students.

Laboratory Guide for the Bacteriologist. By LANGDON FROTHINGHAM, M. D V., Assistant in Bacteriology and Veterinary Science, Sheffield Scientific School, Yale University. *Illustrated.* Philadelphia: W. B. Saunders. 1895. Flexible Cloth. 8vo. About 70 pages. Price, 75 cents.

The technical methods here described are those generally described in the text-books, but are arranged as simply and concisely as possible, and are printed simply for convenience in laboratory work—to avoid the necessity for searching large text-books. Such a guide is useful in every bacteriological laboratory—giving 15 staining methods, besides the way to prepare nutrient media, how to imbed tissues for cutting sections, etc.

Antisepsis and Antiseptics. By CHARLES MILTON BUCHANAN, M. D., Professor of Chemistry, Toxicology, and Metallurgy, National University, Washington, D. C. *With an Introduction by Professor Augustus C. Bernays.* The Terhune Co. Newark, N. J. 1895. Small 8vo. Pp. 352. Cloth, $1.25.

To copy the chief sentences of the Introduction is a good notice of this book. The material gathered by the author and now presented to the busy doctor is a most welcome aid in practice. It gives the views of eminent biologists, who

have experimented in the field of pathogenic bacteriology. It also has compiled the practical rules adopted by many of the best surgeons, based on their results in thousands of surgical cases. The life of the patient and the result of the operation depend as much upon the precautions against infection as upon operative skill on the part of the surgeon. Study pathology and practice asepsis by the aid of antiseptics. The details laid down in this little book will do much good to the attentive reader. The arrangement of the text, and the copious indices of authors quoted and of subjects treated afford easy reference to a page. The book is nicely printed.

Notes on the Newer Remedies—Their Therapeutic Applications and Modes of Administration. By DAVID CERNA, M. D., Ph. D., Demonstrator of Physiology and Lecturer on History of Medicine, Medical Department of University of Texas, etc. *Second Edition, Enlarged and Revised.* Philadelphia: W. B. Saunders. 1895. Small 8vo. Pp. 253. Cloth, $1.25.

There has been no book in our library that has been more constantly useful with reference to new remedies than the former edition of these *Notes* issued 1893. Omitted from the present edition are a few agents that have found place in standard works, easily accessible. But the additions are so numerous as to increase the number of pages about one-third, which brings the book about up to date. Important additions occur also in many paragraphs on physiological action and toxicology, on incompatibility and contra-indications, etc. A new feature of the present enlarged edition is the valuable Index of diseases. As constantly useful as the former edition was, this second edition will be much more so, as typographical and other errors of the first edition are now corrected. The book is just the thing needed by the busy practitioner.

Defective Speech and Deafness. By LILLIE EGINTON WARREN, 243 W. 21st St., New York. Edgar S. Werner, Publisher. New York. 1895. 8vo. Pp. 116. Cloth, $1.

Deafness is much more frequent than is generally supposed. Dr. Alexander Graham Bell states that there are about 300,000 under 25 years of age in the United States who have grown deaf since their teens. This book shows that fluent speech may be obtained and understood by all who suffer from the different phases of deafness and the

different degrees of imperfect speech. It is not a text-book, but, in effect, a most interesting essay showing the importance of prompt attention to the inevitable demands of those so afflicted, in order that they may understand and make themselves understood in conversation, etc.

Manual of Chemistry. By W. SIMON, Ph. D., M. D,, Professor of Chemistry in College of Physicians and Surgeons of Baltimore, in the Maryland College of Pharmacy, and in the Baltimore College of Dental Surgery. *Fifth Edition, Thoroughly Revised. With* 44 *Illustrations and* 8 *Colored Plates, Representing* 64 *Chemical Reactions.* Philadelphia: Lea Brothers & Co. 1895. Cloth. 8vo. Pp. 502. $3.25.

This "Manual" is standard. It is conservative as to innovations unless such appear to be well-grounded. Its statements are all clear, and its teachings are practical. The work is prepared as "a text-book specially adapted for students of medicine, pharmacy, and dentistry." It is elementary enough to serve as "a guide to lectures and laboratory work for beginners;" it is complete enough to be the popular work for reference, while its authority is recognized by experts. In short, it comes as nearly as possible to being the desirable text-book "*manual* of chemistry" for doctors, pharmacists, and dentists. A number of additions have been made in this edition, so that it has about 25 pages more than the fourth edition.

The American Medical Association

Will meet in Baltimore, Md., May 7–10th, 1895. We hope Southern members will attend in fully representative force.

We are glad that the fire which occurred March 31st in the office of publication of the *Journal of the American Medical Association*, Chicago, did no material damage beyond that covered by insurance. All members of the Association who have not done so are requested to send their photographs by prompt mail to the Editor of the *Journal*, 86 Fifth Ave., Chicago, Ill.

The Kentucky State Medical Society

Will hold its Fortieth Annual Session in Harrodsburg, June 12–14.

Editorial.

The Medical Examining Board of Virginia

Will meet May 7th for its first work since its re-organization. It is needless to say that we expect good work from it. By good work, we mean not that a certain percentage of the applicants will be passed or rejected, but that the portals of the medical profession in our old State will be so strictly watched that no incompetent practitioner shall be allowed to ply his so-called profession here.

We have always taken especial pride and interest in our Medical Board, but for a long while it has been apparent that its greatness in numbers worked to its detriment. Since this defect has now been remedied, and a new Board, chosen almost entirely from the experienced members of the old Board, has now the reins, we have no fear that its previous high standard will be zealously guarded.

In adopting its By-Laws, the new Board considered it wise to depart but little from the laws which had so successfully guided its predecessor. The only change worth consideration is that allowing the examiners to take the papers of the applicants to their homes after the examinations. While this will necessarily cause a longer suspense to the applicant as to the result of his examination, that suspense, we do not think, should be considered, along with the advantages that accrue from this plan. It cannot be denied that under the old *régime* the examiners during the last day of the examinations were forced to do their work too hurriedly. Whether the new *régime* will assist the applicant, we are unprepared to say; but we are certain that justice will more surely be reached, now that the examiners are allowed more time and deliberation in the conclusion of their work. The examiners are required to finish their work and return the result to the Secretary of the Board within ten days from the conclusion of the examination. The duty of the Secretary will then be to tabulate the results and communicate with the applicants with as little delay as possible. The whole time consumed we think then will be about two weeks before the suspense to the applicant is ended. Let me say a few words, in concluding, to the under-graduate.

It seems a great temptation to them—because the law does not forbid—to present themselves before the Board. We think this is to be regretted. But a small percentage of them are successful, while the name of those who fail are

not published to the world, yet on the record of the Board will forever stand the word failure recorded against them. Each time these unsuccessful efforts are made, each time the name is listed as a rejected applicant, along with the number of times the rejection has occurred. Can it be that this will not be a cause of regret to the right-thinking man? We think not. Let your aim always be to accomplish that which you attempt, recognizing no such word as fail. With such a motto, you should not enter unprepared any contest, and assuredly not one which so vitally marks your first efforts in your chosen profession.

Death from the Use of Diphtheria Antitoxin—Warning.

Bertha Valentine died suddenly a few days ago, in Brooklyn, after the administration of Behring's diphtheria antitoxin, obtained from an original package received direct from the American agents for the remedy. Bacteriological examination of some of the same supply of antitoxin by Dr. E. H. Wilson, chief Bacteriologist of the Brooklyn Health Department, and by Dr. W. H. Park, Assistant Director of Hospital Bacteriological Laboratory, New York City Board of Health, failed to recognize any "living germs of any kind," showing that it was free from micro-organisms.

This record makes very opportune the note by Dr. James Jay Mapes, of the Nursery and Child's Hospital, New York, in the April 6th, 1895, issue of the *New York Medical Journal.* He says: "Physicians should be warned against a large quantity of Behring's antitoxin serum, at present on the market in New York, that is unfit for use. Instead of being clear, transparent, and of a pure amber color, as it should be, many bottles are sold containing a cloudy, opaque serum that is slightly more milkly-looking than mucilage, but still resembles it. Undoubtedly some chemical or physical change has taken place in the serum, due, perhaps, as some of the dealers suggest, to prolonged freezing during transportation from Germany. Examination shows no bacterial or fungus growth to be present. Its antitoxic properties, however, must be to a great extent or entirely destroyed; and it should, under no circumstances, be used, as otherwise unwarranted disrepute might be brought upon this new method of treatment. Each bottle must be examined carefully before using. Antitoxin serum, when kept cool and in a dark place, can, as a rule, be preserved in good condition for a number of months; if, however, it spoils, a

cloudiness will immediately appear, and make this change easily recognizable."

There does not seem to us to be any reason to be dependent any longer on importation of diphtheria antitoxin from abroad—now that such a firm as Parke, Davis & Co. have a laboratory for its production under the care of the able bacteriologist, Dr. Charles T. McClintock, who has been the able associate of Drs. Victor Vaughn and Fred. G. Novy.

Meeting of American Medical Publishers' Association.

Publishers are enthusiastic over the approaching meeting in Baltimore, May 6th, and we anticipate a very large attendance. The manager of the Eutaw House has very kindly placed a spacious parlor at our disposal, and this hotel will be headquarters for the Association. A special rate of $2.50 per day will be accorded members and their families. Mr. Simmons, of the *Maryland Medical Journal*, is chairman of the arrangement committee. Among the topics to be presented for discussion are the following:

(1) How to make your journal pay the advertiser.

(2) Shall we give a commission to regular advertising agents. If so, what per cent. shall it be?

(3) What shall be done with the "reading notice"?

(4) The best method of wrapping a medical magazine.

(5) The editor as a business manager.

(6) Trade advertising; is it advantageous either to the manufacturer or the journal?

(7) Insert advertisements; does it pay to run them in your reading matter?

(8) Premiums as a means of securing new subscribers.

(9) Speculative advertisers; how to avoid them.

(10) The sample copy question.

Publishers desiring to present papers on the above, or any other subjects germain to the cause, will please send title to the secretary at once. Every editor, publisher or manager of a medical journal, of either or any school, is extended a cordial invitation to attend this meeting.

LANDON B. EDWARDS, M. D., *President.*
CHAS. WOOD FASSETT, *Secretary*, St. Joseph, Mo.

The Buffalo Medical and Surgical Journal

Is about to celebrate its semi-centennial anniversary by increasing its reading pages from 64 to 80, and by other improvements. It is an excellent journal, and deserves the success its announcement indicates it has achieved. Dr. William Warren Potter is the managing editor.

Modern Surgery Record.

In examining the records of the Virginia Hospital, in this city, we noted that during the current session of the University College of Medicine sixty major operations were performed by the Professor of Clinical Surgery. These cases, with scarcely an exception, were charity patients in the Hospital. Of course, this record does not include many cases of minor surgery operated on, nor cases of non-operative surgery brought before the class; nor does it include those cases operated on by other surgeons connected with the institution. We call attention to the sixty cases only to emphasize the wonderful value of aseptic and antiseptic surgery. Among the cases were nine laparotomies, three cases of trephining for epilepsy, three amputations, one excision of the knee-joint, two supra-pubic cystotomies, one ligation of the common carotid, and one of the femoral artery for aneurism, etc. The only one death occurred in a case of intestinal obstruction following laparotomy. This report, small as it is, shows the outcome of modern surgery in the hands of good men, and what cleanliness and the judicious use of antiseptics will do. A report like this made ten years ago would scarcely have been credited.

Medical College of Virginia.

The Fifty-Seventh Annual Commencement exercises were held in the Academy of Music, Tuesday night, April 2, 1895. Governor O'Ferrell delivered a fine address on the "Medical Profession and the Physician's Duty and Sphere." The Dean, Prof. Christopher Tompkins, spoke of the prosperous condition of the College and of the newly-equipped Old Dominion Hospital.

Diplomas as Doctors of Medicine were then awarded to Adams, W. J., Richmond, Va.; Appleton, J. N., Pope, Va.; Blair, M. P., Wadesboro', N. C.; Bowles, A. P., Kent's Store; Burges, R. U., Ivor, Va.; Burke, Joseph M., Petersburg, Va.; Burwell, W. M., Burk's Fork; Clore, J. M., Criglersville; Cosby, A. B., Pole Green, Va.; Cox, J. Ed., Erwin; Drewry, H. R., Richmond, Va.; Dickinson, E. T., Fremont, N. C.; Hartsook, W. E., Mason's Store, Va.; Henderson, J. M., Bridgetown, Va.; Howell, H. W., Richmond, Va.; James, Lorimer, Richmond, Va.; Keck, J. A., Richmond, Va.; Kellam, J. J., Bellehaven; Luxford, T. B., Richmond, Va.; Mann, D. M., Petersburg, Va; Martin, A. L., Elk Creek, Va.; Murphy, F. B., Bernersville, W. Va.; Nichols, R. A., Richmond, Va.; Nichols, W. B., Richmond, Va.; Redd, James T., Rich-

mond, Va.; Redd, Paul E., Richmond, Va.; Repass, T. W., Wytheville, Va.; Rhudy, W. W., Elk Creek; Stephenson, H. U., Berlin, Va.; Snook, T. A., Hamlin, N. Y.; Turlington, R. S., Bennettsville, S. C.; Walker, T. C., Randleman, N. C.; Ware, R. B., Narseal, Va.; Wiley, R. M., Salem, Va.

Dr. James T. Redd bore off the honors of receiving the Alumni Prize, the Bartlett, Garvens & Co.'s Prize, the Valentine Prize, Dr. R. T. Ellis' Prize. Dr. J. N. Clore received the Faculty Prize and appointment as resident physician to St. Vincent Hospital, Portsmouth. Dr. H. U. Stephenson was awarded the Garvin Medal and Dr. W. F. Drewry's Prize. Dr. T. B. Luxford received the prizes offered by Profs. C. M. Shields and Geo. Ben. Johnston and appointment as one of the house physicians to the City Almshouse. Dr. W. J. Adams received Dr. W. C. Barker's Prize. Dr. R. B. Ware received Prof. J. W. Long's Prize. Dr. W. M. Burwell received Dr. D. A. Kuyk's Prize. Dr. D. M. Mann was appointed resident physician to Old Dominion Hospital, Dr. J. E. Cox to Sheltering Arms, and Dr. T. W. Repass to Retreat for the Sick.

The Alumni Association, presided over by Dr. H. Cabell Tabb (the president, Dr. Thom, having died last fall), had a good session during the day (April 2d) and a banquet at night. Dr. T. N. Woodley, Charlotte, N. C., delivered the annual oration on "Gynœcological Electro-Therapy."

The University College of Medicine, Richmond, Va.,

Will have its Commencement Exercises in Academy of Music on the night of April 11th. We are sorry that we have to postpone list of graduates until May issue. The session, however, has been a prosperous one—about two hundred matriculates.

The Jacksonville, Fla., Yellow Fever Doctors of 1888.

It seems that a New York journal recently stated that only one resident physician remained in the city during the epidemic of yellow fever, 1888. This misstatement is corrected by Dr. H. R. Stout, of Jacksonville, Fla., who states: "All the physicians of the city, with one exception, remained here; and not only that, but most of us had the disease, and four of our number laid down their lives, serving their fellow-men."

In Alabama,

An effort is being made to compel the printing of the formula on each package of patent medicine. This would be a great good if the law is secured.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 2. WHOLE NUMBER, 254.

RICHMOND, MAY, 1895.

Original Communications.

Art. I.—Cerebral Syphilis.*

By HENRY ALFRED ROBBINS, M. D., of Washington, D. C.,

Ex-President of the Microscopical Society of Washington, D. C.; Lately Clinical Professor of Dermatology and Genito-Urinary Diseases, University of Georgetown.

On the 12th day of April, 1893, I delivered a lecture to a class of medical students on the subject of internal syphilis, which was published in the *Virginia Medical Monthly* of July, 1893. I called attention to the fact that syphilis was not mentioned as a cause of cerebral diseases by many authors of publications on diseases of the nervous system. The possibility of said disease being a cause of any mental trouble was not mentioned by the renowned Dr. Abercrombie, of Edinburgh, in his work on "*Diseases of the Brain and Spinal Cord.*" This was the popular text-book ,and was the authority not very many years ago. Trousseau never mentioned cerebral syphilis, attributing nervous symptoms to cranial periostitis. In fact, Sir Astley Cooper, the most

* Read before the Medical Society of the District of Columbia on February 27th, 1895.

distinguished student of John Hunter, and the great pathologist himself, taught that the vital organs were never attacked by syphilis.

It is only within the past few years that, owing to the discoveries made in the pathological rooms, the ravages made by syphilis have been comprehended. It was in 1869 that Professor Rudolf Virchow, in his anatomical laboratory at Berlin, cleared up the nature of syphiloma of the brain and its membranes. Several years prior to this, 1863, Dr. Sam'l Wilks, of Guy's Hospital, took the lead in pointing out the injurious effects of syphilis in the internal organs. Modern research, he then said, has been mainly in the direction of discovering a wider influence for the venereal virus, and tends to show that the internal organs may be affected equally with the external. As Dr. Wilks expresses it: "Syphilis, in its ultimate form, is capable of affecting every organ of the body; the internal may become equally as obnoxious to the effects of the virus as the external. Many obscure and intractable organic disorders are cases of visceral syphilis, and it cannot be too forcibly impressed upon the young practitioner that syphilis may affect not only the cranium, but the brain within it, or the nerves; not only the muscles of the limbs and tongue, but the heart; not only the pharynx, but the œsophagus; not only the larynx, but the trachea, bronchi, and lungs; also the liver, spleen, and other viscera." (*Guy's Hospital Report*, Vol. IX, 1863.)

In 1874, Professor Heubner described certain lesions as characteristic of syphilis. He described fibroid indurations, and the syphilitic tumors, known as gumma, and certain changes in the arteries. "In the cerebral arteries, the changes produce opacity and marked thickening of the vessel, with considerable diminution in its calibre. It is this diminution of the lumen of the vessel which is especially characteristic. When transverse sections of the vessels are examined microscopically, the principal change is seen to be situated in the inner coat. This coat is considerably thickened by a cellular growth. The growth which is limited internally by the endothelium of the vessel, and exter-

nally by the membrana fenestrata, closely resembles ordinary granulation, tissue consisting of numerous small round and spindle-shaped cells. The tissue appears gradually to undergo partial development into an imperfectly fibrillated structure. In addition to this change in the intima, the outer coat is abnormally vascular and infiltrated with small cells, and this cellular infiltration usually invades the muscular layer. The result of these changes in the inner coat is to diminish very considerably the lumen of the vessel; and the consequent interference with the circulation frequently leads to coagulation of the blood (thrombosis) and cerebral softening."

Associated with Dr. Samuel Wilks at Guy's Hospital was the late most accomplished pathologist, Dr. Walter Moxon. Together they wrote their great work on pathology, which is in daily use by every anatomist. For several months, I had the honor of being an assistant to Dr. Moxon in the *post-mortem* room of Guy's Hospital. The changes which occur in the brain in this dread disease were thus described by him: "Syphilis attacks the surface of the brain and the membranes; it attacks them in limited spots, and spreads slowly. The morbid changes are, on the one hand, adhesion of the membranes to each other and to the surface of the brain by means of an adventitious material of firm consistence and yellow color, which may be called lymph, but is harder, tougher, and more opaque. This exudation may be found at any part of the surface; it invades and destroys the grey matter, interferes with the supply of blood, and when it occupies the membranes at the base of the brain surrounds and involves the nerves in the inter-cranial part of their course. In the examination of the brain after death (over 1,000), I have been surprised to find in how small a number this disease appeared to originate in the under layer of the periosteum of the endo-cranium. I think this, perhaps, may be accounted for by the fact that when a gumma of the inner table of the skull does arise, the clinical features, evidenced by pain, etc., are so marked (for these manifestations usually occur with the existence of ex-

ternal gummata) that remedial measures are adopted early, and thus promotes absorption before the membranes of the brain become involved."

In 1886, Dr. Wilks, in a lecture on "Medical Treatment," said: "I think I can show you how an improved treatment has come about, not by the discovery of new drugs, but by a better knowledge of the nature of disease and by clinical observation. Thousands of persons are now cured of epilepsy, paralysis, and various other nerve disorders by means of iodide of potassium, and why? Because syphilis was found to attack the brain and internal organs, when a more extended and closer observation of morbid structures was begun to be made in the *post-mortem* room. Let me most emphatically dwell upon this point, that an improved treatment, saving thousands of lives annually, arose, not from the discovery of a new drug, but from work in the dead-house."

Verily, the more you make a study of syphilis, the more you will consider it a Proteus, capable of assuming hundreds of different forms.

Alfred Fournier, in his book, "*La Syphilis du Cerveau*," published in Paris in 1879, makes us acquainted with the more common, as well as the more usual forms, which brain syphilis is apt to assume at the bedside. Fournier describes six different forms as follows: The cephalalgia, the congestive, the convulsive or epileptiform, the aphasic, the mental and the paralytic. Before Fournier gave this admirable and accurate description, we were groping in the dark, as I am acquainted with no other work which even attempts a description, except that in later years of Dr. Thomas Stretch Dowse, and that you will find only on the shelves of a medical library or of a neurologist.

As physicians, you will be called in during syphilitic coma or hemiplegia. Althaus, of London, says: "A knowledge of syphilitic coma is of great practical importance, inasmuch as it requires an entirely different treatment from other forms of coma, and an incorrect diagnosis, is in such a case likely to seal the fate of the patient."

Lack of time will prevent my referring to the different forms of coma, or where there is a loss of consciousness or motion, and where you will have to make a diagnosis as to the cause—such as syncope, asphyxia, epilepsy, puerperal eclampsia, uræmic coma, alcoholic stupor, the comatose stages of eruptive fevers, certain forms of gout and rheumatism, and the poisonous effects of opium, belladonna, lead, etc.

It is a maxim in whist that, 'when in doubt, lead trumps.' Remember what Dr. Thomas S. Dowse says of iodide of potassium: "In nervous diseases, the physician commands this drug to carry out his object, and it does it, too, as surely, as completely, and effectually as the surgeon's knife in excising a tumor."

There seems to be some question as to whom is due the credit of first recommending the use of iodide of potassium in the treatment of syphilis. Mr. James R. Lane stated, in a lecture published in the *Lancet* June 23rd, 1877, on the syphilitic affections of the viscera: "I do not think it is sufficiently remembered that we owe to a physician, the late Dr. Robert Williams, of St. Thomas Hospital, the introduction of the iodide of potassium in the treatment of syphilis, without doubt the greatest improvement which has been effected in this country."

At the meeting of the British Medical Association held in Dublin, August 3rd, 1887, Dr. C. R. Drysdale, of London, said: "A statue should be erected to Dr. Wallace, of Dublin," who was the discoverer of the virtues of iodide of potassium in syphilis. Before his day, syphilis was a terrible disease"

Coma is the fore runner to paralysis, which is the most frequent result of the syphilitic poison upon the nervous system. That grand old Quaker, Jonathan Hutchinson, gives the following advice: "So frequently is syphilis a cause of paralysis that in all cases where it happens without evident cause, and in which syphilitic antecedents are even possible, it is advisable to try the effects of specific treatment. Undoubtedly we often, by such means, get a clue to

the real nature of many an obscure affection of the nervous system."

Heubner gives five types of symptoms resulting from syphilitic brain lesions:

I. Psychical disturbances, with epilepsy, incomplete paralysis (seldom of the cranial nerves), and a final comatose condition, usually of short duration.

II. Genuine apoplectic attacks, with succeeding hemiplegia, in connection with peculiar somnolent conditions, occurring in often repeated episodes; frequently phenomena of unilateral irritation, and generally at the same time paralyses of the cerebral nerves.

III. Course of the cerebral disease similar to paralytic dementia.

IV. Psychical disturbances without complete epileptic convulsions, associated with palsy of the basal nerves, and often with partial hemiplegia.

V. Paraplegia associated with ocular or other symptoms, indicative of lesions at the base of the brain.

The mental symptoms are not definite as regards any special feature. It is the want of coincidence in the mental symptoms, as in the paralyses, that strongly characterizes syphilitic diseases of the brain, as Professor Heubner describes it, "The half and half incomplete nature of the severe symptoms, the impairment of the consciousness without its entire destruction, the loss of voluntary activity without the complete abolition of voluntary impulse, the half awake and half dreamy condition of the patient, are strong peculiarities of syphilis."

Not infrequently among the first of the mental symptoms is the lack of æsthetic feeling. Sometimes from the purest they become the most obscene.

Dr. Grundy reports the case of a most respectable and highly connected young lady, whose friends had noticed in her a growing tendency to "*double entendres*," to slight smuttiness in conversation, and they were at a loss to account for this. He suspected syphilis, but was not for a long time listened to. Finally, after getting the patient

on specific treatment, these morbid peculiarities disappeared.

Dr. A. H. Newth, in the *Lancet* of October, 1892, publishes an extremely interesting article on syphilitic insanity, in which he refers to two cases reported by Dr. Clouston. One a clergyman who, twelve years after syphilitic insanity, conducted himself most obscenely towards the female members of his congregation. The other was a medical man, who, though otherwise able to conduct his practice well, misconducted himself towards young girls. Both of these had to be placed under treatment in an asylum. In the *Virginia Medical Monthly* of June, 1892, in an article called the "Third Act of the Drama of Syphilis," I reported two cases of insanity caused by syphilis. Dr. Savage, of London, states that syphilitic insanity is rare, and says that some acute cases follow the dilirium, which may follow with the case. Many lunatics exhibit venereal diseases contracted while insane. He also states insanity may follow the onset of secondary symptoms of the more severe type, thus with optic neuritis, with ulcerations about the face, or it may appear with the onset of local paralysis of the third or other cranial nerves. It may occur with the neuralgia or sleeplessness of syphilis. The disfigurement may cause insanity. There are cases where syphilis has acted as a moral cause, and has set up a form of hyperchondriasis. Epilepsy may occur with or without insanity. The epilepsy may be the chief symptom, or only a sign of widely spread disease, or it may be a symptom of general paralysis, or of locomotor ataxy. Dr. Savage reports a group of cases, in which progressive weak mindedness follows constitutional syphilis. It may be preceded by some motor symptoms, by either the ocular motor trouble, a monoplegia, or hemiplegia, in one by aphasia, and in another with other motor troubles. There was another group in which sensory tronble, some tempo rary loss of vision, or taste, or hearing, some aphasia, or some temporary giddiness may be the first symptom, which is followed by progressive degeneration, which is not of the same kind, and not to be grouped with the general paralysis

of the insane depending upon syphilis. He classified these cases as organic dementia of syphilitic origin.

Dr. Spitzka reports an unusual case of mental syphilitic manifestations occurring in an actor. This patient had abolition of both knee-jerks. His disease was at times controlled by treatment, and then recurred. He had had, in the course of one day, fifty or sixty attacks of a peculiar kind of "*petit mal*," in which he lost consciousness, while coming upon the stage oftentimes, but so briefly that he could recollect himself. In one case, where he had to cross a foot bridge, he had an attack in the course of passing over, but he went on as if nothing had happened, the "*petit mal*" losing its character as a loss of consciousness, and becoming replaced by a peculiar sensory disturbance. He found that accompanied by the prodromal feeling all the faces of the audience were exactly the same. This sensation passed like an electric flash. These peculiarities continued, but at longer intervals.

At the meeting of the British Medical Association, 1887, held at Dublin, a paper was read on Syphilitic Aphasia by Dr. Drysdale, of London. The author said he had seen a case of syphilitic aphasia as early as 1861, in Dr. Gubler's ward, at the Hopital Beaujean at Paris. That year Dr. Broca wrote his work on aphemia, a term altered to aphasia by Professor Trousseau. At that time it was not, as now, known that syphilis could cause aphasia by narrowing the calibre of the vessels of the brain, or by formation of gummy tumors. In all cases of syphilitic aphasia which he had treated there had been right hemiplegia. The first of these he had under his care was that of a gentleman who, in 1851, contracted syphilis. He was a most intellectual man, and a celebrated professional. This gentleman had suffered for many years with fits of vertigo, which yielded well to iodide of potassium, and suddenly, in 1871, or twenty years after the initial lesion, he had an attack of right hemiplegia and aphasia. His general health continued pretty good, but the symptoms of complete aphasia and hemiplegia remained quite unaffected by treatment. He died in

1886, after being aphasic for fifteen years. Another distinguished literary man contracted syphilis in 1870, and had symptoms resembling locomotor ataxia three years subsequently, with mental disturbances. In 1876 he was attacked with right hemiplegia, and was speechless for a time. Remedies were of great service to him at that date. However, in 1887, being in Ireland on a visit, he was carried off by a cerebral attack.

In the *Virginia Medical Monthly* for October, 1894, in an article called "Unmerited, or Non-Venereal Syphilis," I reported the case of Professor Von Zeissel, who died of cerebral syphilis, many years after acquiring the disease, from a wound received in opening a syphilitic bubo.

At a recent meeting of the New York Neurological Society, Dr. Nammack presented two cases of syphiloma of the brain. The first occurred in a cloth examiner, aged thirty-four, who six weeks after contracting a chancre, suddenly became unconscious, and had no recollection of what transpired during the succeeding forty days. Following this there was right-sided hemiplegia, which confined the man to bed for three months. As soon as the initial lesion was discovered, the patient was put on specific treatment, and this was vigorously continued for a long time. About six weeks after the treatment was discontinued the patient developed severe occipital headache and bi-hemianopsia, with ataxia and exaggeration of the knee-jerks. Under specific treatment these symptoms almost entirely disappeared. It is believed that the lesion was probably a gumma situated in the substance of the optic chiasm.

The second patient was a man, forty-four years old, who complained of dizziness, bilateral occipital headache, tinnitus, absolute deafness of the left ear and diplopia. He also had the characteristic cerebellar gait. The history of syphilis in this case was rather obscure, but under specific treatment the man's symptoms almost entirely disappeared. The diagnosis was gumma in the cerebellar region.

At the meeting of the American Neurological Association, held in New York city, 1894, Dr. Charles L. Dana re-

ported 182 cases of apoplexy, of which 100 were non-fatal, and 82 fatal. Dr. Dana stated: "Taking hemiplegia as a whole, I find that a very distinct history of syphilis was found in 36 out of the total 100 non-fatal cases. * * * *This fact that syphilis causes one-third of all cases of apoplexy has not, I think, been heretofore braught out, though I feel sure that the experience of neurologists will confirm it.*"

Folet reports a case of syphilitic hemiplegia occurring in a man aged 37, in whom the paralytic symptoms developed in three days, and who recovered in a year.

Boziere reports a similar case occurring in a man aged 30, in whom the symptoms developed suddenly, and who likewise recovered in a year.

Eisenlohr reports a case. Patient aged 30; had syphilis eleven years previous to an attack of rectal and vesical paralysis with paralysis of the right leg, paresis of the left, and greater reduction of cutaneous sensibility in the latter than the former. Improvement followed treatment, but later there was paresis of both legs, without ataxia. At the necropsy, the dura spinalis was found attached to the posterior portion of the cord by meningeal inflammation from the height of the tenth dorsal nerve to the cauda equina.

At the Congress of German Physicians, held in Vienna, 1894, Dr. Jolly reported a case of cerebral syphilis in which he was able to demonstrate by autopsy the dependency of word deafness and aphasia on a complete destruction of the parietal lobe, the two first temporal lobes, the angular gyrus, præcuneus and cuneus. The patient was unable to read his his own name, or to write from dictation. The word deafness Professor Jolly considers was due to the lesion in the temporal lobe, and the loss of speech possibly to the entire destruction of the auditory centre and areas.

Alfred Fournier, in a lecture, thus sums up his views on general paralysis in syphilitic patients: "Undoubtedly, general paralysis does occur in syphilitic subjects sometimes, but sometimes only, and in quite too exceptional a manner to warrant our regarding it as depending directly upon the evolution of the syphilitic morbid processes. It is very

reasonable to suppose that a disease which affects the nervous system as profoundly as does syphilis, may be the determining cause in some cases. In syphilis itself the mental disturbances are not quite those of general paralysis; they may, indeed, present all varieties of excitement, violence, depression, or dementia, but they do not follow any special type, as do those of general paralysis. The condition of self-satisfaction of unfortunate subjects of general paralysis, who imagine themselves kings, prophets, great artists, who revel in fancied wealth, and propose every day fresh schemes, magnificent in the extravagance and boundlessness of their scope, all that makes up the common description of their delirium, is absent, or, at least, only exceptionally present in syphilis, and when present the extravagance is tame and humble in comparison. Tremor may be present in syphilis, but is only occasional; that of the tongue especially is very rare, while the tremor of the upper lip, so frequent in general paralysis, is perhaps never present—at least Professor Fournier has never seen it. Above all, the tremor lacks the constant, fibrillary, vermicular character of that of general paralysis. These differences are not merely of degree, but definite, and more easily recognized clinically than described by words.

Paralysis and paræsis of all kinds are common in syphilis, and correspond to what is ordinarily described by these terms; whereas in general paralysis it is more a want of coordination, and defect of precision than abolition of muscular power. Again, in syphilis there is excessive frequency of partial paralysis affecting a special predilection for certain parts; for example, the muscles of the eye-ball, a peculiarity which is not found in general paralysis. Hemiplegia, transient or permanent, is often one of the earliest phenomena of cerebral syphilis, and of great frequency in some period of the disease. Finally, in syphilis, motor phenomena, apoplectic attacks, etc., commence the affection; in general paralysis, intellectual and moral disturbances prelude the symptoms of cerebral disorganization, while similar disturbances mark the course of the two diseases,

syphilis being irregular, variable in its progress, in the succession of phenomena, and its duration; general paralysis, on the other hand, is regular, and of definite duration. The comparison of the general state of the patients in the two diseases gives not less striking distinctions; in syphilis, cachexia; in general paralysis, maintenance of nutrition, even *embonpoint*, up to the very last.

Finally, syphilis may be regarded as at least possibly curable, gloomy as is the result in most cases, yet differing even in this from the other absolutely incurable malady."

In 1886 I was the physician to a family whose adopted son was of rather unusual mixed nationalities. The father of the boy was a Chinaman, and his mother was born in Ireland. Their union was sanctioned by the church. In appearance he resembled the father, looking like an out-and-out Mongolian. At that time he was what might be called an interesting child; was effeminate in appearance and manners. He was devoted to his Sunday-school, and naturally he was a universal favorite with all good people. He was then about fourteen years old. In about a year he commenced to grow rapidly, and I noticed a peculiar shambling gait. He was knock-kneed. About this time he commenced to have persistent "tinnitus aurium," and he was treated by two of our most eminent aurists. I placed him on a "mixed treatment," with the effect of stopping "the tic." I ascertained afterwards from the former family physician, who lives in South Carolina, that prior to the birth of the subject of this history, he had attended the father with the worst case of syphilis he had ever seen. The boy very gradually, almost imperceptibly failed from day to day. I noticed a change in his naturally refined feelings. He became a victim of almost constant self-abuse. There was no aphasia. He would at times lose control of his sphincters. At this time his voice began to change, and he passed from childhood to young manhood. The bland and childlike countenance vanished, and he became a drivelling idiot. The Sunday-school instruction faded from his mind, and for hours at a time he would repeat certain profane words. He would at times appear to be dying, and I or some other physician would be called, but he would rally, and live on for months. In one of these attacks he was seen by Dr. Godding. In the summer of 1889 I met Dr. Godding in consultation in another case, and he expressed

astonishment that the patient should have lived so long, and I promised to inform him when the end came, so that he could ask Dr. Blackburn to make a post-mortem.

The end came the last of December; Dr. Blackburn made the autopsy. There were present Drs. Edes, Kerr and myself. I did not expect to publish this case, and took no notes, and will have to trust to memory, regretting that I cannot more fully give the post-mortem appearances. I had diagnosed extensive ramollissement. There was considerable shrinkings of the brain, and great œdema, and opacity of the pia-mater, and arachnoid. The convolutions were abnormal, and there was extensive softening.

On the 11th of December, 1894, I was consulted by Mr. ———, aged forty-two years, who stated that for many months he had had persistent headaches, occuring at night. He had consulted many physicians, who had treated him for neuralgia of malarial origin. The treatment, he said, making his condition worse. I obtained the following history: Eight years ago he had had a suspicious sore on the prepuce. At first his physicians were in doubt whether the sore was the initial lesion of syphilis or not. Subsequent syphiloderms, however, put at rest the question of diagnosis. He was placed under mercurials, and in a few months he was pronounced cured.

For eight years he had taken no treatment, and, as a rule, enjoyed good health. I gave ℞ containing hydrarg. bichlorid. and iodide of potassium, which, he stated, relieved the headache. On the evening of the 22d he appeared bright and cheerful. On the next evening he called, and said that he had not taken the medicine, and that he was not feeling well. While he was standing up about to leave, he said he felt exactly as if some one had struck him a violent blow on the back of the head. He sank to the floor, and it was with considerable difficulty I lifted him to my sofa. In half an hour he was able to get up, and he passed some urine. I examined it and found no albumen or sugar; specific gravity normal. I took him home in a carriage and placed him in bed, and applied oleate of mercury (10 per cent.) over his bald head and the nape of his neck. There was no elevation of temperature; pulse 72—full and regular. I commenced giving him fifteen grains (saturated solution) of iodide of potassium every three hours. The next day he complained of thickness of speech, and a sense of numbness on the right side. I gradually increased the iodide until he was taking 35 grains every three hours.

There was no gastric disturbance. After a time there was slight coryza, and I commenced decreasing the dose until he was taking ♈j. every three hours. Patient daily improved in strength; headache disappeared. On January 26th I prescribed the following:

℞. Hydrarg. bin-iodidi.....grs. ij
Ammonii iodidi.....ʒij
Potass. iodidi.....ʒvj
Tinc. gentian comp.....f. ʒiv

M. Sig.—Teaspoonful in water three times a day, after meals.

Patient would go out walking or driving every day. On January 28th he went to New York city, and I gave him a letter to Dr. R. W. Taylor, who stands, as you all know, so pre-eminent in our profession. I gave a favorable prognosis in this case.

On the first of February I received a letter from Dr. Taylor, which contains the following sentence, which gave me supreme satisfaction: "Your diagnosis, prognosis and treatment are all correct. I think, with you, that the patient can be cured, provided he follows treatment repeatedly. He undoubtedly has had endarteritis of syphilitic origin."

1750 *M Street.*

ART. — —. **The History of Medicine and Surgery in Georgia.***

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Late numbers of the *Atlanta Medical and Surgical Journal* have contained a series of articles by myself on the above subject. It has been suggested that the matter be recast and condensed for record in the *Transactions* of this Association.

In our early medical history the status of medicine and surgery in Georgia, as elsewhere in the United States, was

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* Read at the meeting of the Georgia Medical Association, Savannah, April 17, 1895.

rude indeed. At the close of the Revolution there were not two hundred physicians in the new State; very few of these had ever heard a medical lecture or seen a cadaver. Medical education then usually meant an apprenticeship of uncertain duration in some doctor's office, spent in reading the latter's books, which were few and imported from the mother country, and in compounding his medicines from the raw materials. The principles of medicine were three—blood-letting, blisters and purgation, with salivation and emesis as adjuvants. The greatest of these was blood-letting. There was no god but the lancet. Dr. Benjamin Rush, of Philadelphia, the "Father of American Medicine," was its prophet, and great high-priest. Then the resources of therapeutic art first carried the patient to the verge of eternity. The reparative powers of outraged nature brought him back, what was left of him, if he could come. As to the results obtained by the *fin de siecle* methods of that time, we have it on the authority of the great Rush—and he probably knew—"We have assisted in multiplying diseases. We have done more; we have increased their mortality."

I must refer in passing to two of our medical men in the last century who left for a while the more humble duties of their profession to serve the colony in the troublous times which then tried men's souls. Dr. Lyman Hall, of Sunbury, and Dr. Noble Wimberley Jones, of Savannah, were respected and successful practitioners. Both were ardent revolutionists, and each represented his parish in the Continental Congress. Dr. Hall was one of our three signers of the Declaration, and after the war the first Governor of the State. With the restoration of peace, Dr. Jones resumed the practice of his profession. Each of these patriot-physicians commanded alike the confidence of patients and political constituents.

Before 1800, epidemics of small-pox at various times had visited our coast-section. Inoculation with true small-pox virus had been practiced as a preventive measure, but even this was done only upon a military permit. There is no

record of the first introduction and practice of true vaccination. I estimate that this must have occurred about 1803, soon after the introduction of it into South Carolina by Dr. Ramsey in 1802.

Yellow fever was then a disease of almost perennial interest, and in the confused nomenclature of the day was called "autumnal," "malignant remittent," "malignant bilious," etc. Dr. J. E. White, of Savannah, was one of our earliest writers on the subject. He was the author of several good papers on the climate and diseases of Georgia (*Medical Repository*, 1804–1805). Dr. White and others in Savannah believed in the domestic origin of the disease, and pointed to the undrained rice-swamps about the city as the culture ground for these fevers. They urged upon the officials the necessity for drainage. When this was finally carried out, the fevers abated both in frequency and severity. There was one method of treatment—the lancet. It was a "divine remedy."

An important factor in these early sanitary measures was the Georgia Medical Society, organized in Savannah in 1804. It was among the first medical societies in the country. Its objects were the advancement of medical science, mutual benefit to the members, and the restriction of abuses in the practice of medicine.

In the years between 1805 and 1820 there was some activity in western migration. The interior of the State was vacated by the Indians; the white man took possession and proceeded to level the forests and open up the soil. "Bilious fever appeared as suddenly as the face of nature was changed by the hand of man. For eighteen years it was a formidable epidemic." Five per cent. of the population died each year from this cause alone. "This mortality happening in a few months gave to the disease the terror of a pestilence." (Dr. Tomlinson Fort).

About 1818, the Thomsonian or Botanic School of Medicine made its first appearance in Georgia, through the agency of traveling representatives of Thomson, who sold his book and the right to use his remedies in the family for

twenty dollars. Georgia was destined to become one of the strongholds of this system of ignorance. The Thomsonians rejected entirely the methods employed by the regular profession, relying exclusively upon certain vegetable agents, steaming, etc. These agents consisted mainly of lobelia, capsicum and a combination of hemlock, bayberry, ginger, pepper and cloves, under the name of "composition tea," which was used to meet almost every indication. The most ignorant people became the self-appointed apostles of the new faith. Quacks and impostors of the worst sort took advantage of the cheap opportunities thus afforded to practice physic, and the crimes that were committed in the name of botanic medicine, steaming, etc., went unpunished. "The degrading stain of Thomsonianism was a disgrace to the American character; the most stupendous system of quackery and the most insulting offering ever tendered to the understanding of a free and enlightened people." (Dr. M. Antony).

In such circumstances, it was evident that legislative action would be necessary to protect the people from the consequences of such ignorance and fraud. The regular profession secured from the Legislature of 1825 an act "regulating the licensing of physicians." This was the beginning of medical legislation in tne State. The act provided that from and after its passage no person should practice medicine or surgery in the State without license. It established a "board of physicians," whose duty it was to examine all applicants, licensing only those who were found competent. Applicants holding diplomas from medical colleges were exempt. Those who witnessed the operation of this law say that it did good service.

Dr. W. C. Daniell, of Savannah, was a prominent and successful practitioner. In 1826, he published a monograph entitled "The Autumnal Fevers in Savannah," which was an important contribution to the literature of this subject. Dr. Daniell was the first in this country to use the weight and pulley in the treatment of fractures of the thigh. One case was thus treated in 1819; another in 1824. (See

American Journal of Medical Sciences, August, 1829.) Dr. Antony of Augusta, was led to adopt the method in five cases, and his judgment of it was that "it established a plan of treatment calculated to insure the best success with the simplest apparatus and the least distress." (*Southern Medical and Surgical Journal*, October, 1836.) Many years later, Dr. Gurdon Buck made use of the same principle in the New York Hospital.

Dr. Milton Antony was a remarkable man, and a physician of rare skill and ability. One operation in his early career (March, 1821,) was a pioneer in lung surgery. For empyema, the anterior halves of the fifth and sixth ribs were excised, a large accumulation of coagula was removed from the chest cavity, and portions of disorganized lung tissue were taken away with the fingers. Patient was not cured, but much benefitted by the operation. (*Philadelphia Medical Journal*, Vol. VI, p. 108.)

Dr. Antony was the founder of the Medical College of Georgia (1830) and of the *Southern Medical and Surgical Journal* (1836).

The college and the journal made Augusta, for many years, the medical centre for a large Southern territory. The Faculty of the College from the first took a high stand in favor of the best medical education that the times could afford. Dr. Jos. A. Eve and Dr. Lewis D. Ford, Dean, were particularly active in their efforts for higher medical education. They recognized four "cardinal defects in the existing system of medical teaching—viz: the want of preparatory learning, the paucity of branches taught, the shortness of each session, and of the whole period of instruction before graduation."

In May, 1835, they attempted to obtain a Convention of representatives of the fifteen medical schools in the country "for the purpose of establishing an uniform system of requirements for graduation; of regulating the courses of professional study * * * and of counseling generally about the means of rendering our institutions

most successful in diffusing the benefits of medical education."

Nothing came of this suggestion. The majority of the colleges either took no notice of it, or declined co-operation on the ground that "the time had not yet come when a prolongation of the term is necessary." This position was denounced in a masterly paper by Dr. Eve, in the *Southern Medical and Surgical Journal*, September, 1836. But his paper came and went like the voice of one crying in the wilderness.

Dr. Richard Banks, of Gainesville, was famous in his time. He was modest to a fault, and his best work is not of record. He was the first American surgeon to extirpate the parotid gland—in 1831. The operation was done with success for a tumor of the parotid. The temporo-maxillary articulation was dislocated in the manipulations. Dr. Banks was widely known from his successful operations for stone in the bladder. He was the contemporary and compeer of the great Dudley, of Kentucky. He did the lateral operation, with the aid of the gorget. The present county of Banks was named in his honor.

The story of the discovery of anæsthesia by Dr. Crawford W. Long, of Jefferson, Jackson county, in 1842, has been told over and over again by Dr. Long and others, and is now well-known medical history.* He withheld his cases from precipitate publication because he wished to study the phenomena of anæsthesia, to determine both the limitations and possibilities of ether. Medical journals, every month, were full of discussions upon "animal magnetism," "mesmerism," etc., and wonderful reports were coming from foreign hospitals of surgical operations being done without pain during the "magnetic sleep." Indeed, one surgeon had written a monograph entitled "The Practical Application of Mesmerism in Surgery." Dr. Long was an unbeliever in

Southern Medical and Surgical Journal, December, 1849; *Virginia Medical Monthly*, May, 1877; *Transactions* Georgia Medical Association, 1881; *Virginia Medical Monthly*, October, 1893; *History of the Discovery of Anæsthesia*, by Dr. L. W. Nevius, New York; *Atlanta Medical and Surgical Journal*, February, 1895.

this so-called science. Hence, he says, and very naturally, "I was the more particular in my experiments in etherization." Such was the reason for his silence. Medicine then, as now, furnished many examples of the rise and fall of "discoveries" prematurely announced. He did not wish to add another. In the meantime, another discovery of anæsthesia is made, and a sad chapter is added to the history of American medicine, the tragic details of which we cannot go into here. However, the "ether controversy," which could never be decided during the lifetime of the participants, is now being settled by impartial judges, and each of the four claimants is being awarded his proper place in relation with the discovery.

Dr. Tomlinson Fort practiced medicine at Milledgeville for nearly fifty years. Dr. Fort was reared in the school of Rush, but he did not agree altogether with his great teacher. He advocated the use of Peruvian bark for remittent fever, against the teachings of Rush. He opposed the indiscriminate employment of blood-letting, and the too liberal use of mercurials. In 1849, he published his "Dissertation on the Practice of Medicine," a volume of seven hundred pages, which he dedicated to the physicians of Georgia. We are told that he stood through his long life above reproach, and that he contributed his full share to the changes in the practice of medicine which occurred during his lifetime.

Dr. Lewis D. Ford, of Augusta, did much toward establishing correct ideas as to the nature and treatment of the malarial fevers. Dr. Ford was the first to classify them properly, saying that though "differing in their external features, they were fundamentally of the same nature and required the same mode of treatment." He introduced and advocated the "abortive plan" of treatment—large doses of quinine—large enough to prevent a recurrence of the paroxysms. Under this treatment, Dr. Ford says, intermittent fever ceased to be the "despair of organic medicine." Dr. Ford was the Nestor of medical education in Georgia. His association with Dr. J. A. Eve in an effort (unsuccessful) to secure a high and uniform system of med-

ical teaching has already been referred to. Dr. Ford was Professor of Practice in the Medical College of Georgia for nearly fifty years.

Dr. Paul F. Eve was a distinguished surgeon. He introduced in America the bilateral operation in lithotomy (*American Journal of Medical Sciences*, April, 1854). This was Dr. Eve's favorite method of operating for stone, and he did more than any other American surgeon to give this method a well-recognized status in surgery. The first successful abdominal hysterectomy in America was performed by Dr. Eve in April, 1850. The patient lived four months, and died from a recurrence of the malignant growth.

Dr. Joseph A. Eve was eminent as a teacher, and in the special field of obstetrics and diseases of women. For over fifty years he occupied this chair in the Medical College of Georgia, and his lectures are still remembered as classics by a large number of Southern physicians. Dr. Eve was an earnest advocate of advanced medical education, and made every effort to induce all the colleges of the country to raise the standard—all to no avail.

The Georgia profession never had a more worthy representative than Dr. Louis A. Dugas. He was the first in this country to apply the test of surgery to "animal magnetism," or "mesmerism." In 1845, he operated three times upon a Mrs. Clarke during the "mesmeric sleep" for a recurring carcinoma of the breast. In the third operation, the axillary glands were also removed. "The patient gave no indication whatever of sensibility." (*Southern Medical and Surgical Journal*, March, May, and September, 1845.) Dr. Dugas believed that the phenomena of mesmeric sleep might be so utilized as to "render them available to all sufferers." Dr. Dugas was the first to call attention to the most valuable diagnostic symptom of shoulder-joint dislocations. This sign was the inability to place the fingers of the dislocated limb upon the sound shoulder with the elbow in contact with the thorax. (*Transactions American Medical Association*, 1857.) For penetrating wounds of the ab-

domen, Dr. Dugas was the first to advise opening the cavity at once to locate and suture wounds of the intestines. In this matter he antedated Marion Sims by several years. Dr. Dugas's paper on this subject before the International Medical Congress, Philadelphia, 1876, was a sound and forcible argument for a "change of practice in such cases" of penetrating wounds.

Dr. Henry F. Campbell was the first to practice and advocate ligature of the main artery going to a part for the treatment of inflammatory processes or threatened gangrene. He used this principle with success in a number of cases during the late War. (*Confederate Manual of Military Surgery*, page 297.) In 1850, Dr. Campbell published some interesting physiological studies upon the excito-secretory and excito-motor system of sympathetic nerves. Two years later, the same system was independently discovered and described by both Dr. Marshall Hall, of London, and M. Claude Bernard, of Paris. These gentlemen, upon learning of Dr. Campbell's studies, promptly awarded him the credit of priority. (See papers by Dr. Campbell, *Southern Medical and Surgical Journal*, June, 1850; *Transactions American Medical Association*, 1853 and 1857, Prize Essay; London *Lancet*, May 2, 1857.) Another important paper by Dr. Campbell afforded the most rational explanation of the action of quinine on the parturient uterus, from its properties as a cerebro-spinal depressant. (*Transactions American Gynæcological Society*, Vol. V.)

The late Dr. J. B. Bean, of Macon, divides with Dr. Gunning, of New York, the credit for inventing and introducing the interdental splint of vulcanized rubber for the treatment of fractures of the lower jaw. The splint was made from plaster casts of the teeth and gums, and was used with good results by Dr. Bean in the Macon hospitals during the War. The apparatuses of Bean and Gunning were devised about the same time, and independently of each other. (*Richmond Medical Journal*, February, 1866.)

Dr. Robert Battey, of Rome, was the first surgeon in the State to do an ovariotomy (1867) for the removal of a large

dermoid cyst. Patient is still living. On August 17, 1872, Dr. Battey first performed the operation since known by his name, "with a view to establish at once the change of life for the effectual remedy of certain otherwise incurable maladies." The operation, which was at first condemned in vigorous terms, gradually gained professional recognition and endorsement. Sims, who, in 1872, had been "astounded at the audacity of this operation," said, in 1877, that Dr. Battey had "reasoned out a truism; * * * and that his operation was based upon sound physiological doctrine." The best description of the proper indications for Battey's operation is Dr. Battey's paper before the American Gynæcological Society, 1880. (See also *Atlanta Medical and Surgical Journal*, September, 1872, and January, 1887.)

Four years before the late revival of supra-pubic cystotomy for stone in the bladder (1880), Dr. E. F. Starr, of Nacoochee, had done the operation with success, removing a calculus which weighed nine drachms. The case is reported at length, with comments, in the *American Journal of Medical Sciences*, July, 1877.

The name and reputation of the late Dr. W. F. Westmoreland are too well known to members of this Association to require much notice here. Reared a surgeon under the special instruction of such masters as Velpeau, Nélaton, Ricord, and others, he acquired by study and experience a high operative skill and accurate powers of diagnosis. In 1855, he was one of the organizers of the Atlanta Medical College, and honorably filled the chair of surgery for the remainder of his life. Dr. Westmoreland did not write much; so that some of his best work and most valuable surgical experience are not available for reference.

In 1884, Dr. J. McFadden Gaston, of Atlanta, made some interesting and valuable contributions to gall-bladder surgery, pointing out the feasibility of establishing a communication between the gall-bladder and the duodenum in cases of obstruction of the bile-duct. Dr. Gaston's conclusions were based upon a series of experiments upon dogs. (See *Atlanta Medical and Surgical Journal*, September and

October, 1884, and September and November, 1885; *Gaillard's Medical Journal*, October, 1884; also article on "Gall-Bladder Surgery," by Dr. Gaston, in *Reference Hand-Book of Medical Sciences.*) These experiments and suggestions have been acted upon by a number of surgeons, and now duodeno cholecystotomy (or cholecyst-enterostomy) occupies a well-defined place in abdominal surgery.

The old medical practice Act of 1825, with some slight changes and an intermission of three years, remained a law until 1881. Its last years, however, were marked by the most flagrant abuses, and it became obnoxious to the friends of efficient medical legislation. In 1881, another medical act was passed, which was possibly less objectionable than the old, but equally inefficient. The present law, requiring three boards of medical examiners—regular, homœopathic, and eclectic—had its origin in the Atlanta Society of Medicine, November, 1892. It promises to be better than its predecessors.

The Georgia Medical Association was organized in Macon, March 20, 1849. This organization of the State profession was called by the Medical College of Georgia and the medical societies of Macon and Savannah. There were about eighty delegates present. Among them, Dr. Lewis D. Ford, chosen President; Dr. R. D. Arnold, Vice-President; Dr. J. M. Green, Corresponding Secretary; Dr. Chas. T. Quintard, Recording Secretary; Dr. Thos. R. Lamar, Dr. Robert Campbell, Dr. G. F. Cooper, Dr. C. B. Nottingham, Dr. F. A. Stanford, Dr. Charles West, Dr. H. Steele, Dr. J. F. Alexander, Dr. S. D. Brantley, and others. Of the eighty original members, only Dr. Alexander and Dr. Brantley are now living.

Art. III.—Public Hygiene in the Light of Recent Observations and Experiments.*

By JOHN P. WALL, M. D., of Tampa, Florida.

Medicine is an inductive science, dependent largely on observation and experiment; and consequently we find with the progress of time and the advancement of knowledge that the more we learn, comparatively with our expanse of information, the less we positively know; and that much which we learned in our earlier days has either proven erroneous or is so materially modified by subsequent observations and teachings as practically to be of no advantage.

And possibly in no department of medicine have greater changes taken place within the last quarter of a century than in that branch pertaining to the etiology of disease which, in recent years, is generally expressed by the threadbare term hygiene—a word with its prefix *anti*—which has been conjured into a veritable Pandora box to frighten the public and produce a "Reign of Sanitary Terror."

We may have a general and vague idea of what we mean by *hygiene* the same as we do by the word *health*, but when we undertake to specify the conditions or environments of a perfect hygiene we find ourselves at as great a loss as we would to define a state of perfect health. According to Dunglison, "Hygiene is the part of medicine whose object is the preservation of health. It embraces a knowledge of healthy man, both in society and individually, as well as of the objects used and employed by him, with their influence on his constitution and organs."

It is easy to say that the great requisites for a state of perfect health, or first-class hygienic condition, are good food, pure air and pure water. While admitting this much as probably correct, though rarely attained in the social state, it would be a matter of no small interest for the hygienists, or so-called sanitarians of the present day, to point out and prove from experience or observation the anti-hygienic fac-

* Read before the Florida State Medical Society, in session in Gainesville, April 16, 1895.

tors and conditions which they are able to positively demonstrate as causes of disease, and especially of epidemics. It may be easy to prate about "Sanitary Science" and the progress it has made in recent years, and write volumes of glittering generalities, interlarded with bald, bold assertions and statements of what are claimed as facts, but none of which can be proven by observation nor demonstrated by experiment. In fact, on studying the subject with anything like fair-minded attention in the medical literature of the day, it soon becomes transparently evident that the absence of those ideal hygienic conditions which we have been taught to consider as so essential to health, and the presence of the opposite anti-hygienic conditions have, as a rule, nothing whatever to do in the causation or propagation of disease.

Leaving out what is known as malaria, which is only recognized by its effects, there is not another morbific agent which may be connected with the soil so far as known. Nor are there any indications of the presence of malaria in one locality which define it from another where its presence is never recognized. It is the general impression that malaria is an emanation from marshes and swamps, but it is not improbable that the experience of most of the older physicians of this State has been to a considerable extent to the contrary, and that they have encountered malaria in many localities whose environments promised great salubrity, while in other places, where *a priori* the conditions of topography and natural growth of the soil would seem to indicate malaria, none was present.

So much, then, for the natural pollution of the soil where man and civilization have had nothing to do with its infection with morbific germs, were that possible. Happily, the great laboratory of nature is so conservative in its methods as to prevent mischief from the apparently deleterious, while utilizing all, every atom as it were, in a harmonious and beneficent work, so that the effete and offensive is again converted into the useful—nothing is rejected as worthless. Even the process of decomposition with its putridity is pre-

eminently conservative in its relation to the well-being of the human race; and the so much talked of pollution of soil, air and water as deleteriously affecting the health of the human race, is found to possess little, if any, foundation in fact.

So far as respects the soil becoming infected with pathogenic germs (microbes) of disease, observation and experiment have conclusively demonstrated that it is only in sterilized soil the pathogenic germ can survive for any length of time, for the simple reason that it is destroyed by the bacteria of nitrification in the process of decomposition. Examination of the sewage from the pipes discharging their contents on the sewage farms near the city of Berlin failed to find the bacillus of typhoid fever, for the reason already stated—the destruction of such germs in the putrid mass.

"Both in the north and south districts, numerous bacteriological examinations have been made. Not only was the water in the drains—that is, the purified water—free from the bacteria of typhoid fever, but so also was the raw sewage when examined at its arrival at the farms. * * * * * Of course, when raw sewage is thrown on the soil and comes out of the pipe with great force, there is a general stirring up of its foul contents, which naturally causes very unpleasant odors. Then again, the soil receiving much more water than is natural and needed, there is a tendency to flood low-lying ground, and many cottages are damp and their cellars half full of water. This is more particularly the case at Wurtenburg, where the cellars are so constantly flooded that, as one informant graphically declared, 'the peasants swim in it.' * * * * Nevertheless, and though it is easy to pick holes and criticize details, and though undoubtedly many defects exist, the broad fact remains that Berlin is drained throughout * * * * The death rate on the sewage farms is low in spite of occasional accidents, such as cases of typhoid fever and cholera nostras."—*London Lancet*, June 23, 1894.

Again, in a debate on the disposal of the sewage of Paris in the House of Deputies of France, in which the sewage farm of Gennevilliers, near Paris, came in for some criti-

cism, M. Bourgoin, chemist to the assistant, Nublique, in the course of his reply, said:

"The sewage of Paris must be utilized and not wasted; but we are told that in accumulating on a restricted space millions and milliards of microbes we shall produce untold calamities. It is true that there has been no epidemic due to microbes at Gennevilliers, but then we are again told that the microbes are only sleeping, that they will awake one day with terrible effect. They had, however, been sleeping now for twenty years on the plains of Gennevilliers; this seemed more like lethargy than sleep. These microbes had been searched for over and over again, but could not be found at a depth of 75 or 80 centimetres, and the sewage water when it came out from under the sewage farm was free from bacteria; it was so pure that he (M. Bourgoin) had drank it and yet lived to relate the deed. * * At Gennevilliers the population had been increased by the sewage farms from 1,500 to 6,000 inhabitants, and the health of the people had likewise improved. * * * M. Bourgoin, on descending from the Tribune, was warmly congratulated. The members of the Government Commission were especially pleased, and crowded around to shake hands and to express their satisfaction."—*London Lancet*, March 23, 1894.

As a further argument against this soil-pollution theory as a cause of disease, it may be interesting to contrast two American cities—New Orleans, La., and Washington, D. C. The foundation of the former is made by the debris of the Mississippi river; its soil is like a sponge; it has and can have no drainage. The soil is saturated with human excrement; the people of New Orleans live on a dung-heap, and it may be said that they have a privy in common. Dr. Joseph Jones says that the main drains and canals of New Orleans are blocked up with offal, presenting a green, seething, putrefying mass of filth. Large numbers of the people sleep on the ground floor of houses badly constructed, badly drained, situated on land which is saturated with water which is the seepage from privies and foul drains. And yet, Dr. Jones says the death rate of the whites, exclusive of foreigners and strangers and laborers who crowd the

hospitals and prisons, would not exceed 15 per 1,000 of the inhabitants.

"The city of Washington contains 12,000 less people than New Orleans. It has an abundant supply of good water, it is well sewered, its streets are broad and kept scrupulously clean, its plumbing is carefully supervised, it has sanitary regulations without number; its sanitary inspectors are emblazoned in uniforms; to the observer it is the ideal of the sanitarians in direct contrast to New Orleans; yet its mean death rate for thirteen years has been 23.88 per 1,000 of population. The percentage of deaths from zymotic diseases in total mortality in Washington for the four years ending in 1889, was an average of 21.89 against that of 16.61 for New Orleans for the same time."—*Vagaries of Sanitary Science*, by F. L. Dibble; Lippincott's, Phil., Pa., 1893.

As regards filth producing typhoid fever, Liebermeister says:

"In fact, daily observation is sufficient to show that the decomposition of organic substances and of excrementitious substances is not of itself sufficient to produce typhoid fever. There are multitudes of houses in which the effluvia of the privies can be smelt through all the rooms, and in which the inhabitants are constantly inhaling sewer gases; and neither the temporary nor permanent residents are attacked with typhoid fever. It can readily be seen also that there is no relative proportion between the frequency of typhoid fever and the want of cleanliness in different cities; the dirtiest cities may be exempt, and the cleanest attacked. There are villages, and there are certain quarters in cities where, both within and without the dwellings, decomposition of organic and excrementitious substances is constantly going on; but only in some of these situations does typhoid fever occur; while in others it has never been observed within the memory of man."—*Ziemssen*, Vol. I, p. 50.

Did time and space permit, other data might be given and other evidence adduced to prove that filth plays no part whatever in the causation and propagation of disease; and that also the soil is not polluted by putrid filth being poured or cast on it to a sufficient depth as to affect the underground water at the depth of a few feet below the surface. In fact, as already seen in the case of the sewage

farm at Gennevilliers, no pollution of the soil is manifest after twenty years.

Nor is there any evidence that filth has anything to do whatever with epidemic diseases of an infectious or contagious character. The committee, consisting of Drs. Sternberg, Chopin and others, appointed to investigate the widespread epidemic of yellow fever in the Mississippi Valley in 1878, say in their report:

"The committee cannot find that there are any uniform local conditions. Yellow fever has prevailed in cleanly places and in filthy places, in high places and in low places, among the rich and poor."

We will now consider the water-pollution theory as a cause of disease; and in the outset it may be as well to observe that by pollution is meant the presence of filth in the water, and not the supposed pathogenic germ of any disease. The presence of the latter in any water, whether pure or polluted, would render it infected; so, that it is to be borne in mind that the terms polluted and infected are not synonymous, nor used to mean the same thing. Pure water may be infected with specific disease microbes as well as impure water.

As regards the effect of polluted water, Liebermeister says (*Ziemssen's Cyclop.*, etc., vol. I, p. 58):

"It must be understood, however, that not all well water which is mixed with drainage from privies produces typhoid fever; the presence of the typhoid poison is a necessary condition. In a region where there is no typhoid fever, the drinking of excrementitious matters does not produce typhoid, but, at the most, only other derangements. In this way we explain the common experience that a well may furnish harmless water for a long time, and then, if a single case of typhoid is introduced, give rise to an epidemic."

On the same point Rohé says (*Text-Book on Hygiene*, 1890, p. 61):

"Organic detritus of various liquids, sewage, decomposing animal and vegetable matter, refuse from manufacturing establishments, may be a source of pollution of water and render it unfit for drinking or other domestic purposes. It is, however, not certain that water thus rendered unclean is

prejudicial to health; in fact, Dr. Emmerich, of Munich, has recently put his skepticism on this point to a practical test. For two weeks he drank daily from half a litre to a litre of very filthy water; in fact, nothing less than sewage. The water was both chemically and physically exceedingly impure. Several of the experimenter's patients partook of the same water without any ill effect. The result of Emmerich's experiments, and of other well-known observations, seem almost conclusive that the products of animal and vegetable decomposition, taken into the body with drinking water, cannot be looked upon as certainly harmful."

Prof. W. G. Sedgwick, of Boston, Mass., has this to say (*Reports and Papers of the Public Health Association*, 1893,) of polluted water in discussing outbreaks of typhoid fever in Lowell:

"It so happened that during the previous autumn I was engaged in studying the well waters there, and was acquainted with local conditions where a well was found which, in its chemical and bacteriological condition, could have produced the whole epidemic upon the old theories of the causation of typhoid fever. It was unquestionably charged with matters directly derived from sewage. Its connection with cesspools was demonstrated by chemical analysis. People were getting the water right and left, and there was every reason why they would have typhoid fever on the old theories of the disease; curiously enough the people who drank the bad water were comparatively free from typhoid fever, * * * * in other words, drinking ordinary sewage did not hurt them, but drinking infected sewage did hurt them, and they began to have typhoid fever.

"The Lawrence Experiment Station has done an immense service by showing how water can be purified by a few feet of common sand. I am inclined to think that in some of our books on sanitary science the striking diagrams which we see of the house privy, and the drippings running from the privy into the well, will have to be modified. * * * Not only are pathogenic germs, but all other germs, removed by their passage through the soil. Even taking the lurid picture which Dr. H. has drawn of a lot of fecal matter deposited near a well, let us suppose for a moment that these microbes were not noticeable. How many of them do you suppose would survive in the putrefying mass to get through into the well? The fact is, that these organisms have their life history, their favorable and unfavorable en-

vironments, and we have been studying these environments in the last five years and have learned that some bacteria die rapidly under conditions which were formerly supposed to be favorable for their growth. It is a fact that the typhoid bacillus dies out quickly; it dies out very quickly under unfavorable circumstances, although in some instances it may live a long time. * * * * The facts are, that we have to come from glittering generalities to actual specific experiments. We know what the life of many of these bacteria is—how short it is."

"Fortunately, so far as we are aware, none of the pathogenic bacteria are capable of developing in water to any considerable extent; and as even to impure water, the other forms present tend to destroy the disease producing germs, unless a water is exposed to repeated infection, dangerous conditions tend to disappear. On the whole, the general tendency of the results of bacterial life in water is to purify it and to remove noxious substances. * * * * * The temperature of the water or air, contrary to what might be expected, has very little effect upon the number of bacteria present. * * * Rainfall and melting of snow appear to be the chief factors affecting the number of bacteria in natural waters. In the writer's experience of Canadian waters, seasons of heavy rainfall were attended by marked increase in the number of bacteria. This accounts for the increase in bacteria noticed just before the onset of winter, a time at which all the rivers become full. * * * Although, as a matter of observation, the number of bacteria in natural waters does not seem to diminish notably during winter, there can be no doubt that the continual low temperature of the water not only checks the natural increase of bacteria in water, but actually tends to destroy their vitality. * * *

"*Light.*—It has long been known that bacteria grow best in the dark, and recent experiments have shown that direct sunlight has strong germicidal powers over many bacteriæ. The experiments of Büchner and others show that both liquid and solid cultures of typhoid bacilli and bacillus coli communis were killed by exposure to direct sunlight for half an hour.

"It is well known that the subsoil drains of sewage-farms, which form a system of effluents to the filter beds, contain, as a rule, remarkably few bacteria, these having been removed by the soil. At Lawrence, Mass., a system of filter tanks was established for the purpose of obtaining accurate quantitative results in sewage filtration. These

were filled with sand to a depth of three to five feet above a layer of rock or cement, and some yellow loam was placed on the surface. The sewage was applied intermittently in small quantities at a time, and the observations upon the effluent were continued over periods of from two months to three years without changing or removing the filtering material. It was found that, by proper care, the filter at the end of three years' constant (intermittent) use was in perfect order, free from disagreeable odor, and capable of yielding an effluent containing few bacteria, only about .001 per cent. of the number in the original sewage, and which for the most part contained only 0.3 to one per cent. of the ammoniacal and organic nitrogenous matter present in the sewage.

"These observers attributed these very satisfactory results to biological causes, namely, the burning or oxidation of the bacteria and organic matter by the agency of living organisms present in the sand. * * *

"From the above experiments we have seen that it is possible, experimentally, to imitate successfully the natural filtration as it takes place in the earth, with the result of obtaining filters which gain, instead of losing, in purifying powers after years of use, and which yield a water comparable to the natural ground water. * * *

"Infection through drinking water has probably been overrated as a factor in the production of typhoid fever, and too great a tendency exists to look upon this as constituting the only danger. Where infection can clearly be traced to a pollution of the water supply having an obvious connection with a case of typhoid fever, there need be no hesitation in assuming that this has really taken place; but, at the same time, typhoid can be equally readily communicated by food supply, milk, kitchen utensils, soiled linen and furniture; and, probably, by the air." *Water; Reference Hand-Book Medical Science*, Vol. IX, 1893.

Dr. Cyrus Edson, Commissioner of Health for the City and State of New York, in explaining the outbreaks of typhoid in the winter at the North, says (*Medical Record*, May 5, 1894,):

"Two causes probably operate to effect this: First, oxidation, due to the action of free oxygen and resultant oxidizing processes in the water, affects organic compounds, and destroys germ life more rapidly under the influence of warm weather; second, the micro-organisms of fermentative de-

composition of organic matter (including the nitrifying bacteria) in contaminated water are most active when the waters are warm, and these germs of their products are probably inimical to the bacillus typhosus. Cold water, in other words, tends to hold the typhoid bacillus unchanged; to preserve it, so that it may be carried great distances by flowing streams, and to render the contamination of the underground currents, supplying wells and springs much more dangerous during the cold seasons of the year than in the summer, when oxidation and fermentative changes due to warmth are active. * * *

"The subject may be summed up, to wit: experience and science point straight to the fact that water purifies itself much more efficiently and with greater rapidity in warm than in cold weather."

So that in this climate there really need be no very serious apprehension of epidemic outbreaks of typhoid fever from contaminated waters. Besides, the old theory of disease germs finding their way into wells with the sweeping water through our sandy soil, is conclusively demonstrated by observation on the sewage farms and the filtering experiments at Lawrence, Mass., to be erroneous.

It is the fashion at the present day among *soi-disant* sanitarians and sciologists to prate much about the pollution of streams and other bodies of water. Now, let us see how much truth is found in their assertions. (*Univ. Med. Sciences*, Vol. V, 1893.)

"Alessandro Serafini states that daily observation and scientific research accord in showing that, in the majority of cases, the water of running streams, spontaneously and in a short time, is purified of all abnormal and heterogeneous substances which it has received in traversing a great centre of population. The works of the Royal Commissioner, the classic report of A. Durand-Claye on the Seine, the chemical and bacteriological analysis of Schilhoss of the Iser, Fleck of the Elbe, Moser of the Main, Frank of the Spree, and Celli and Scala of the Tiber, demonstrate that the quantity of organic substances, ammonia, and bacteria, diminishes at a slight distance from the point where they enter the stream, while there is an augmentation of nitrous and nitric acid, indicating that the work of oxidation is progressing.

"Aëration, in consequence of a continual renewal of air, in no way prevents the development of micro-organisms; and while it is indubitable that the presence of air is indispensable for the oxidation of organic substances elaborated by the bacteria, that aëration does not alone suffice to accelerate the oxidation. The experiments showed that there was no constant and appreciable difference between water in which there was continuous aëration from the rapidity of the current and water in which aëration was affected under barometric pressure or the influence of temperature. The action of low temperatures is incontestible in killing, or inhibiting the development of, bacteria; though in large masses of water, if favorable for the development of bacteria, lowering of the atmospheric temperature does not seem to produce any noxious action. In experimental researches, and in local observations on water having a rapid or slow current, it may be established that there is a gradual and continued sedimentation of bacteria that is favored by the assistance of other substances held in suspension in the water. It seems that the self-depuration of water is not affected by oxidation processes in the mass of water itself. The rapid diminution of bacteria is due to sedimentation, dilution, the mechanical action of substances held in suspension, the motion of the water, the low temperature, a superficial filtration on the bed of the river, and, perhaps, an inherent action of the water itself. Consequently, sedimentation and dilution produce a rapid diminution of organic substances and ammonia, while there is a rapid but gradual increase of nitrites and nitrates, with a diminution of bacteria."

Only a few years since, the pollution of the water-courses was one of the great bug-bears of the sanitarians, without any regard to observation and scientific research. Some fellow had reiterated the statement in stentorian tones sufficiently often as to have been heard, and the cry taken up by others emulous rather of notoriety than the elucidation and establishment of truth; and thus a new terror was conjured up to frighten an ignorant and credulous public.

The air may be contaminated in confined spaces, with poisonous gases, to such an extent as to be inimical to animal life; but owing to the law of diffusion of gases no such danger is incurred in the open air. And while there is much

evidence in favor of certain infectious diseases being contracted through the air, no method of investigation has thus far been able to conclusively demonstrate it as a fact. Outside of the meteorological conditions of temperature, pressure and humidity, we have been unable to show any relation between the air and disease except so far as the air may have been a vehicle for pathogenic bacteria. Contrary to popular belief and the teachings of the sanitarians, there appears to be no proof that the air is materially vitiated or poisoned in the presence of decomposition and putrefaction. Sewer air, erroneously spoken of as a gas, has been held responsible for producing many and various kinds of sickness, but with how little foundation, in fact, we shall see.

"Mr. J. Parry Laws, H. I. C., has presented to the main drainage committee of the London County Council two reports embodying the results of his investigations, undertaken at their instance, on the composition of sewer air. He refers briefly to the experiments on the same subject, conducted by Dr. Carnelly and Dr. Haldane, whose observations were made in the main sewer of Westminster Palace and in various sewers in Dundee. Their conclusions were that the air of sewers was much better than might have been expected; that the proportion of carbonic acid gas in sewer air was about twice, and that of organic matter about three times that in the outside air; that the number of micro-organisms were less in sewer air than in the outside air at the same time; that, as regards the impurities just mentioned, the air of sewers was in a much better condition than the air of naturally ventilated schools, and, except as regards the organic matter, in a better state than that of mechanically ventilated schools; and, finally, that the sewer air contained a much smaller number of micro-organisms than the air in any class of house on which they had experimented. Mr. Parry Laws made his observations on the King's Scholars' Pond Sewer, which runs from Piccadilly to Buckingham Palace Road under the Green Park. He found that the micro-organisms of sewer air are related to the micro-organisms in the air outside, and not to those in the sewage. In the air, both within and outside the sewer, the forms of micro-organisms present are almost entirely moulds and micrococci, whereas, on the contrary, the

micro-organisms of sewage are, for the most part, bacilli. Mr. Laws is of opinion that, in the absence of violent splashing, there is little or no reason to think that the micro-organisms of sewage become disseminated in the sewer air. In a further series of experiments, the conclusions already arrived at were confirmed. He also investigated the question as to whether an increase in the velocity of the air current through the sewer affected the number of micro-organisms found in the sewer air; it was found that a considerable increase in the velocity of the air current did not produce an increase in the number of micro-organisms found in the sewer air. He also found that the results of experiment on large sewers hold good for small sewers. In regard to the actual kinds of micro-organisms in sewer air, Mr. Laws supplies a table of those he identified. It is, he considers, specially noteworthy that two organisms present in sewage in large numbers, the bacillus coli communis and the micrococcus ureæ, were not found in sewer air; and he notes the fact that organisms capable of liquefying gelatine were also almost entirely absent. It is remarkable that all the micro-organisms found in sewer air belong to the non-pathogenic class. It will be seen that Mr. Laws' observations tend to show that the organisms found in sewer air probably do not constitute a source of danger to the health of human beings." (*London Lancet*, March 24, 1894.)

Rohé says of sewer air:

"It is believed by some physicians and sanitarians that sewer air is the direct cause of such diseases as typhoid fever, scarlet fever, diphtheria, and cholera, while others hold the view that the sewer air is merely a favorable breeding-place for the germs of these diseases, and that it thus merely acts as a medium in which the infected agent grows, reproduces itself, and is conveyed from place to place. There is absolutely no trustworthy evidence in favor of either of these doctrines

"The effluvia from cemeteries, knackeries, and other places where the bodies of animals are undergoing decomposition, are popularly regarded as deleterious in their effects upon health. The evidence in favor of this view is, however, very indefinite.

"The gases resulting from the *putrid decomposition of organic substances*, such as are found in tanneries, glue, and soap-works, and similar industries, are popularly believed to give rise to various diseases. There are no observations

on record, however, to show that such is the case. As a matter of fact, the workmen engaged in the industries mentioned seem to be exceptionally healthy, and to resist, to a considerable degree, the ravages of phthisis and epidemic diseases."

To present the facts, and enable you to investigate and determine for yourselves as to their truth and authenticity, it has been necessary to quote rather extensively from various works. It has been my endeavor to show the falsity of the general accredited belief in the doctrine of the impurities of soil—water and air being held responsible as causes of disease, and more especially of epidemic diseases and typhoid fever. It is also shown that the soil cannot be polluted by any amount of filth, nor permanently infected by the microbes of disease, which has been conclusively proven by both sewage farms and the Experimental Station at Lawrence, Mass.; that water courses, when polluted, rapidly undergo depuration by the nitrifying bacteria, oxidation, and sedimentation, and possibly by some inherent dynamic force of the water itself; that sewer air is not a vehicle of pathogenic microbes from the sewage in the sewers; and finally, that the offensive odors given off from putrid decomposition cannot be considered detrimental to health. Nor is their any evidence to prove that water polluted by decomposing animal matter is the cause of typhoid fever or other zymotic diseases. Water, to be a source of disease, must be infected with the specific pathogenic germ of some special disease, and then it matters not whether the water is clean or not.

One other point in connection with this subject is worth emphasizing, and that is the greater activity of the nitrifying bacteria in warm weather; so that in our climate there is much less cause for apprehension from the known pathogenic germs than in more northern latitudes. And consequently, the furore about a good sanitary condition of our towns, because of their lying in a low latitude and the supposed greater danger engendered from filth, have absolutely no foundation whatever on a scientific basis.

As to yellow fever, an epidemic disease only in the warm

season, there is no evidence to show that filth or so-called unsanitary conditions have any relation whatever to its origin or spread.

"To prove the filth and fecal origin of yellow fever, the sanitarians call our attention to the exploits of General Butler in New Orleans, who, they loudly declare, 'stamped out' yellow fever in that city in 1862 by removing the filth. To those who listen merely to the assertions of the sanitarians and of the General himself, who has told exactly how he did it, it appears that, either by revelation or by intuition, he actually possessed some sanitary provision not vouchsafed to the rest of mankind. Dr. Chaillé says he will not contest the General's claims as a warrior, a Democrat, a Republican, and again, a Democratic statesman; but he protests against the validity of his fame as a great sanitarian. Dr. Chaillé says that in 1861, when General Lovell was in command in New Orleans, many of the civil and military inhabitants were unacclimated; yet, no death occurred from yellow fever, and, as far as known, there was no case of the disease in the city during that year. Dr. Chaillé cannot understand why General Butler should be honored by men of science as an eminent sanitarian, while the better sanitary results of General Lovell are ignored altogether. The fact is, that in both years there was no opportunity for the disease to arise from imported cases. But there have been many other years when New Orleans has been nearly as exempt as in 1861–62.

"Is it logical to assume that the fecal matter in New Orleans caused only one death from yellow fever in 1877, and suddenly became so active that the next year it caused four thousand deaths; or that in 1851, it caused seventeen deaths, and two years later became so operative as to destroy seven thousand, eight hundred and forty-nine people?

"Dr. Hargis, of Pensacola, said that the idea that the fever was caused by filth on land was a delusion. Dr. Cochran, in a special report on yellow fever in Grenada, Miss., in 1873, says that the town was in a good sanitary condition. He lays down the proposition that it is caused by a specific poison; that this poison is not in any way the product of ordinary filth, and has no necessary association with filth as such."

Any amount of evidence, all of the same tenor, showing that filth has no connection with yellow fever, might be adduced. It is now universally conceded that yellow fever is

an exotic disease of an infectious nature, and has to be introduced to be an epidemic in this country; and it would be about as logical to assume that the spread of measles was dependent on filth as that yellow fever is.

We know nothing about its pathogenic germ, if it has any, and whether or not it is destroyed by the nitrifying bacteria of decomposition like other pathogenic microbes. As yet, our knowledge of the etiology of this disease is too indefinite to justify the wild assumption of the sanitarians in attributing it to filth. We know that the infection is portable, and has to be, as it can be, introduced to cause the fever; and, so far, there appears to be no sanitary prophylaxis outside of exclusion.

In conclusion, it may not be amiss to say that because I deem it due to truth and the scientific advancement of medicine, to point out the fallacious teachings of hygienists and sanitarians, it is not to be inferred that filth is to be preferred to cleanliness, or that, as physicians, we are not to encourage all the means necessary to keep our houses well swept and garnished. A sense of decency and self-respect can never fail to make us strive with the mass of the community in the advancement of decorum and the refinements of life. But we should protest against the use of these false teachings as both unscientific and harmful, whose only effect is to uselessly excite and alarm the public mind. It is urged by the sanitarians that to insure the carrying out of their proposed sanitary measures, it is necessary to frighten the people. This is no justification at all, for the simple reason that they have failed, so far, to demonstrate the necessity of any sanitary measures in the promotion of cleanliness as a preservation of health or in averting epidemic diseases. The sanitarians offer no experimental evidence of the truth of their assertions, but having come across a case of sickness, they at once set out to hunt up a cause for it, and finding something a little unusual, or, perhaps, offensive, in the locality or environments, they at once exclaim Eureka; and thus exalt humbug at the expense of science and truth.

Art. IV.—Twenty Cases of Supra-Vaginal Hysterectomy for Large Tumors.

By I. S. STONE, M. D., of Washington, D. C.,

Professor Clinical Gynæcology University Georgetown; Surgeon to Columbia Hospital and the New Sibley Memorial (Methodist) Hospital; Honorary Member of the Medical Society of the State of New York, etc.

This list of twenty includes the most difficult and unpromising cases which could be selected for operation. Only one of these (XI) was merely a "pelvic" tumor. Two others nearly reached the umbilicus, while the remainder were very large. The large proportion of cases with "complications" should dispose of the oft-quoted remark, that "fibroid tumors of the uterus are generally non-adherent and uncomplicated." The results of operation, so far as mere statistical information goes, will not furnish information which should be quoted without explanation and qualification as implied in the above remarks. These women, for the most part, were ill and unable to work. They required life-saving surgery, and those surviving operation are well and abundantly able to work. Cases requiring mere supra-vaginal hysterectomy for removal of the uterus, for small tumors, or for sepsis, are purposely not mentioned here, as the writer wishes these cases grouped apart from them. The latter class may generally be removed per vaginam, and the patient does not, or at least usually does not, suffer from shock as does the patient who undergoes hysterectomy for tumor. I have lost only one patient who had a tumor below the umbilicus (Case XII). I have just learned from Dr. H. P. P. Thompson, who sent me Case No. XIX, that she has recently given birth to a child, and has made a normal recovery. This is interesting, in view of the section of the uterus during the operation.

The first case is worthy of mention only as a warning to any who may undertake surgery without the ability to make a diagnosis or to do aseptic work. Two physicians had undertaken the removal of a "fatty tumor" of the abdominal wall, and desisted when a large portion of the parietal peritoneum had been dissected away, and that cavity invaded without aseptic precautions. It is unneces-

sary to state that the tumor was not removed when its nature was ascertained. I was sent for at a late hour to complete the operation, which could be done in no other way than by removal of the tumor—a large fibroid, as the hæmorrhage could not be otherwise controlled. The patient had lost blood for ten hours; her bowels were packed with fecal accumulation, and every possible element of danger and disaster made a fatal result almost certain. The patient lived three days, and died of peritonitis and bowel obstruction.

My second case was in Providence Hospital. The tumor was not adherent; was of the hard variety, and had been growing for about eight years. The patient had attacks of severe pain at intervals, and severe dysmenorrhœa without menorrhagia. A cupped pedicle was made consisting mainly of the capsule of the tumor, which was sewed to the parieties with great care and clamped by a Delta metal wire and Kœberle sereneud. This wire came off in four days, and the patient made an excellent recovery. Her pulse and temperature at no time gave me anxiety. Weight of tumor about eight pounds. Ovaries and tubes likewise removed.

The next case (*III*) was in Columbia Hospital, where all the operations have since been performed. This patient was a young colored woman, thirty years of age, and had known of her tumor for three years. She was unable to work, and wanted the tumor removed for many reasons, the chief of which was anxiety about its presence. There had been no history of acute attacks of pain or inflammation. The stump was treated by ventro-fixation, or combined intra- and extra-fixation. The uterine arteries were tied, flaps of peritoneum closely approximated, and the stump secured in the wound by silk-worm gut suspensory sutures—four in number—which were passed through the abdominal wall and then through the stump and out again through abdominal wall. This operation was not difficult; the tumor did not reach much above the umbilicus. Its weight estimated at same as the one previously removed, or eight pounds. Her recovery was uneventful, or as nearly so as I have ever seen. There was a foul ill-smelling discharge with the extra-peritoneal treatment of the stump in the former case, while in this case there was no odor, no pus, no rise of pulse or temperature. She was up in seventeen days. I should have stated that I used a glass drain for a day in this case.

My success with the last (third) case, in which the new method was used, made me determine to try it again in my *fourth case.* A colored woman had a growing fibroid for nearly three years, which had caused pain and slight attacks of localized peritonitis. Her tumor reached somewhat above the umbilicus, and was multinodular. There were great numbers of small nodules which gave the appearance of papillomata. The lower abdomen was filled with what may be called a nest of fibroids. The treatment of the pedicle was the same as the last. There was some odor from stump in this case, which was due to many sutures which were perhaps applied too tightly, and constricted portions of uterine tissue which sloughed. The odor soon ceased, and she made a quick recovery.

The after history of this case is very important, and is here told that we may learn that even with a smooth recovery a patient is not yet well until perhaps years have elapsed. After perhaps a year, a ventral hernia appeared, and a sinus opened up from one of the ligatures used in tying the uterine artery. It required two operations to remove the sinus with the old stump and permanently close the abdomen. She is now in perfect health, and does not regret any of the suffering entailed upon her by the surgery necessary to remove the tumor and hernia.

The fifth case was one of the most difficult ever dealt with by myself, and required very painstaking surgery to complete the operation successfully. The woman had delusions, and these grew into mania after operation. The tumor extended far above the umbilicus, and was adherent to everything. Large omental veins, with characteristic thin walls, were ligated and nearly all the omentum removed. The transverse colon, stomach, and pancreas, all appeared to be adherent, and were separated at expense of the capsule of the growth. The pedicle was treated as in other cases, the arteries ligated, and the wire used to be very secure against hæmorrhage. For two days I was anxious about this case. Her delirium was violent, and why she ever survived the operation and the mania, I do not know. It has always been a matter of surprise to me that she got well. I never saw such an ill, almost fiendish creature outside of a lunatic asylum. She was well from the operation in three weeks, and I think finally recovered her reason.

My sixth case was a white lady, age 35, who had a soft myoma which had grown for three years. Save certain pressure symptoms, she had no distress in carrying her

burden. She looked like a pregnant woman at eighth month. Her physicians had treated her for an ovarian tumor, hoping to cure her by internal and external use of iodine. The operation was not unusually difficult. The appearance of the growth was misleading, and a trocar was thrust into it, thinking that fluid might be present. Several visitors thought it of ovarian origin. It had grown from the uterus, and was attached by a small pedicle to the fundus of that organ, and also was tightly adherent to the right broad ligament. The tumor was large, and properly belonged to the parasitic variety. I have described this case elsewhere. (See *Virginia Medical Monthly.*) The pedicle was treated after the Schroeder method. Her recovery was satisfactory, and save excessive discharge of serum from drainage tract, there was no anxiety felt during her convalescence. The tumor was estimated at fifteen pounds by those present. When cut open, it was found cystic, and quite a large quantity of fluid discharged from its meshes.

My seventh case was unusual, and presented complications with which I was not prepared to deal at that time. A colored woman, about 46 years of age, had a large tumor, nearly filling the abdomen, whose weight was not far from twelve pounds. The delivery of the tumor from the abdomen was easily accomplished, but the rather unusual development of smaller fibroids, springing from the lower uterine segment and spreading the broad ligament over them, presented a difficulty I had never met, and which prolonged the operation to two hours. The pedicle was finally secured after manner of arranging the other ventro fixation cases, and I thought the patient would recover. But immediately she had symptoms of shock, and her skin assumed a yellow tint, which, after death, was found due to acute yellow atrophy of the liver. She lived five days, and died of exhaustion or of shock of combined causes mentioned. Very little peritonitis was found, which was due to manipulation of the pedicle.

The next (VIII) patient had a hard nodulated fibro myoma, which reached the ribs, and appeared an easy case for operation. She had not experienced marked pain, but suffered great distress and inconvenience from pressure symptoms. Extensive intestinal adhesions existed, and required careful dissection. The large bowel above and to left side enclosing a distended Fallopian tube, gave much trouble. Finally, the stump was secured with wire clamp and a perfectly satisfactory operation was completed. My notes,

written immediately after operation, show that the intestinal adhesions gave me anxiety. Although she was put to bed in good condition, she died of shock on third day.

My ninth case was still more complicated, if possible, than those preceding. A negress who looked at least fifty years, though of uncertain age, had hysterectomy for a large tumor, which filled the abdomen to the ribs, and not until the operation was completed did I know that it contained a fetus of three-and-a-half to four months. The liver and jejunum, with large mesenteric surface, were adherent. The greatest loss of time occurred in checking hæmorrhage from mesenteric adhesions. At the autopsy several (3½) ounces of blood were found, which had collected over the right kidney, and had evidently come from this source. The uterus was completely and very readily extirpated, so far as its pelvic attachments were concerned. The shape of the tumor had caused it to be lifted well out of the pelvis, and at the consultation the os tincæ could not be felt. The tumor weighed (after it was drained of much fluid) more than eighteen pounds. The cæcum was found displaced upwards by the adhesions to the tumor until it reached the under surface of the liver. The appendix was found stretched to fully six inches in length. Patient lived 52 hours.

The tenth case has been fully reported elsewhere (*Annals Gynæcology*, 1892), and needs no further mention, save to say that after complete supra-vaginal hysterectomy for fibro sarcoma, the patient still lives, and is in perfect health two years and nine months after operation. As there has been no sign of recurrence, we may feel quite sure that the cure is permanent.

My eleventh case was that of a colored woman with tumor to size of eight months' pregnancy. Adherent omentum. Large distended Fallopian tubes and no intestinal adhesions. Complete extirpation from above pubis. Catgut used to close flaps after removal of uterus with tumor. Patient made good recovery.

The twelfth case was done for a small adherent fibromyoma, about the size of a cocoanut. Complete supra-vaginal hysterectomy. Both broad ligaments were spread apart by projecting fibroids. Gauze and glass drainage. Perfect recovery. The pulse was quick after this operation for several days, but finally recovered its tone without serious consequences.

The case following this (*thirteenth*) has already been reported in the *Medical Monthly*. A pus sac (76 pounds)

connected with the uterus by a small pedicle. The patient died promptly of shock.

The fourteenth case was also fatal, perhaps due to the fact of reduced health from an attack of la grippe. The tumor was not large, scarcely reaching the umbilicus. The operation was complete extirpation. Abdomen completely closed. Patient lived three days in shock.

This is the first case I had lost where the tumor was not above the umbilicus. I admit the time selected was ill-chosen, and could see no other cause for death than mere shock.

My fifteenth case was most interesting and rather perplexing. I opened the abdomen, thinking to be satisfied with oöphorectomy, to prevent the growth of a fibroid already reaching the umbilicus. The left ovary and tube (size of intestine) removed, but could not find the right appendages. The search caused uncontrollable hæmorrhage and necessitated hysterectomy, which was successfully done; the patient recovering. The first part of the operation required twenty-five minutes, the latter part fifty-five. The shock after this operation was pronounced, but did not continue long. The pulse ran up to 140, then gradually subsided on evening of second day. I used drainage both by upper and vaginal route.

My sixteenth case was done for a pelvis-bound myoma with dermoid ovaries, which had fixed the bowel and mesocolon firmly to the growth, and required most careful dissection to remove the appendages as well as the growth. I have rarely seen or undertakeen so difficult a case, and was highly gratified when the patient recovered from shock due to the total extirpation. She made an ideal recovery after shock had been overcome. In this as in other extirpations I used the Trendelenburg posture.

In my seventeenth case, sent me by Dr. Ernest King, I used a special uterine elevator, and completed the operation of extirpation in forty-five minutes. I had never more satisfaction in any case than in this. No special anxiety was felt about her recovery, which was prompt, and fully accomplished in three weeks. The tumor reached nearly to the umbilicus.

The eighteenth case was one of fibro-cystic myoma, and was adherent to both small and large bowel in several places. The tumor extended above the umbilicus, and required an hour for its removal by so-called Baers' operation. A perfect recovery followed without much shock.

The nineteenth case was a fifteen pound soft fibro-myoma, with extensive omental attachments. The growth had a comparatively small pedicle attached to the uterus, and was largely nourished by omental vessels, which were as large as lead pencils, and very numerous. The uterus was not removed in its entirety, but was opened up in extirpating the pedicle of the tumor. The uterus was closed carefully by interrupted catgut sutures, and a broad flap of capsule was taken from the tumor and adjoining broad ligament to cover over the large wound in the uterus, making a complete closure, with no raw surface for anchoring the juxtaposed bowel. There was much shock after this operation, which continued for more than two days. Time of operation forty-six minutes. After this she made a beautiful, and in fact ideal, recovery. This case was fully reported in *Annals Gynæcology* for 1893.

The next (twentieth) case was hysterectomy for large hard fibro-myoma, which filled the abdomen from ribs to pelvis, and weighed over ten pounds. There were no bowel adhesions, and the only complication was a rather broad mesenteric attachment on posterior surface. Baer's operation. This patient did well until after one week a hemotoma in right-broad ligament suppurated and gave rise to much anxiety. After some hesitation I opened this just inside the right iliac crest, and the patient soon recovered. This case was reported in the *Annals of Gynæcology*, with case last mentioned.

ART. V.—Remarks Suggested by the Enquiry: "Is Malarial Fever a Reflex-Neurosis?"—Reminiscences—A Word for Quiniæ Sulphate.

By WILLIAM S. STOAKLEY, M. D., Millboro Springs, Va.

In the *Richmond Journal of Practice* (December, 1894,) there appears an article of practical interest from the pen of Dr. Ben. H. Brodnax, of Louisiana, under the caption: "Is Malarial Fever a Reflex-Neurosis?"

With your permission, I will take my say through your journal, though with no intention of essaying to answer the queries satisfactorily, but simply giving the ideas of a country physician in this regard for what they are worth.

Atmospheric Causation; Incidental Authority.—Dr. Arnold, a leading physician of Savannah, Ga., and also Mayor of

that city during the late War, (a gentleman standing high professionally, and otherwise in the estimation of his fellow-citizens), said: "He could block out from the city the malaria arising from the surrounding rice plantations with a stone wall."

Dr. J. K. Mitchell, who, by the way, was pretty good authority in time back on this subject, was a literary man and a true poet, through his tact of penetration and gift of expression, and a popular professor in the Jefferson Medical College of Philadelphia. He believed in ærial causation; not the air *per se*, not on account of (intrinsically) hygrometric or barometric conditions, but as a means of conveying the poison caught up from the earth or water. I recollect he here explained to his class endosmosis and exosmosis. He exhibited two cases of uncomplicated malarial fever contracted in the midst of the city by men who were digging the foundations for new buildings. "Gentlemen," said he, "you must recollect that bricks hold it (malaria) down, but don't forget it is there all the same."

Incidental.—Just about this time (1851) was the first I ever heard of subcutaneous applications of remedies. The suggestion came from my friend and classmate, Dr. Edward Warren, of Edenton, N. C., now of Paris, France. Whether it was an original idea of his I do not know, but I well remember we all ridiculed it at the time.

Many years ago, in Eastern Virginia, the castor-oil plant was a paying crop, selling for two dollars per bushel. During these years it was so sickly that the people were compelled to cease its culture. The air was loaded for miles around with the poison.

Dr. Brodnax asks why those old-fashioned shakers have given place to dumb chills, with cold noses and toes.

The consequence of these nervous shocks may tell the first tale of the prior atonic condition of certain organs. These same organs might work along "ill at ease," though they be for some time, were it not for this dose of poison, which partially closes their safety valves (the excretories).

We have now symptomatic signalings of ailings calcu-

lated to disturb the equanimity of the nerves, of course deeper set, whilst the first alarm given by them was temporary only (an idiopathic fever).

The idiopathic attack we take to be a nervous signal of alarm among themselves—only shock. When the symtomatic signals occur we know we have organic bother; and the nerves are now doubly concerned: 1st, shocked by the onslaught of the malarial poison; then more seriously perturbed by irritation or inflammation of their respective organs.

Right here quinine alone is not only useless but will do harm in small doses, because it will "whip up" crippled nerves," add to the fever; and we may call it quinine fever, so far as the aggravation goes.

Now, a nerve stimulant like this, in certain doses, we naturally suppose in large doses will for the time command the nerves—thus the sedative effect of quinine is shown.

The nerves express an alarm at the "balking" of the excretories, and declare they can do nothing of themselves in the way of answering remedies, and need not be treated alone. Thus our attention is called to the fact, that we must open the excretory-vents, and get an interval in the fever, when we can turn our attention to the nerves again, and use with effect antiperiodics—the partial cloggings being now removed, which were indicated by cold noses and toes. The tendency of these fevers to run one into another is a point for practical study among country physicians; and experience has taught them that they must watch this "dodging," and sometimes get the consent of their own minds to do nothing at all in the way of giving medicine until they see which way the tendency is (dynamically). An atypical typhoid, or what in old times was called slow fever in the country, may put in an appearance when least expected.

The intense sick stomach when these shakers come on may be the reflex of the astonished peripheral nerves at the

holding of the caloric internally while they are left out in the cold.

If the idiopathic attack be only nerve trouble, we may naturally conclude that there was reflex action from the fact that we know that the condition of the stomach may be gaged by the condition of the peripheral nerves; when the latter are perturbated there is no sweat, but let the sweat accrue, and they will signal relief to the stomach on their own account. When they are wrong they demand one thing remedially, but quite a different thing do they ask for when both they and their organs are "out of sorts" to bring relief to themselves.

When the entire body is pained, ending with a sour sweat, and big urination, the excretories appear to obey the call of the nerves as they report from "stomach headquarters," and *vice versa.*

The fact is, the organ that controls the "staff of life" can "wire" trouble of the worst sort when "ill at ease."

In these attacks of malaria, congestions of the brain in children are sometimes fatal, but the fatality occurs before the nerves have called up nature's remedy—the fever to quiet the perturbation. If this disturbance is allowed to expend its force upon the peripheral nerves, and through them upon the blood-vessels so as to close the safety-valves, we have continued (symptomatic) fever: provided, the system is not overwhelmed by shock through its effects upon the heart and brain by concentrated doses of this poison, when we have congestive or pernicious fever.

Quinia Sulphate as a Sedative.—Somewhere about 1858 and 1859 it was found, by experiment, that in uncomplicated cases of malarial fever, with hot and dry skin, insomnia and great restlessness, ten grains of Power & Weightman's quinine, given at a dose, would effectually quiet a case—procure sleep and the necessary sweat—the patient awaking relieved for the time; one dose generally sufficing.

The old way, as all know who practiced in antebellum days, was to wait for an interval in the fever before this drug was given. Later on, it became known that ipecac

played a rôle in these affections which, now-a-days, if a remedy behaved so well, would be called a specific; and beside its own effect, combined with quinia, it would enable us to give the latter straight through the fever oftener than otherwise.

In my hands sulph. quiniæ has been in 10-grs. doses (adults) sedative; 3-grs. doses stimulant. A reliable tonic in small doses, especially so in combination with tinc. ferri chlor. and Fowler's solution. Along the Appomattox river, likewise the Savannah, and Chattahoochee, there used to be some rough old fevers; to immunize ourselves quinine was found to answer the call, and without this immunity given us by this drug we would have been of little use in the capacity of health sentinels. In dengue and yellow fevers, my experience, whilst assistant surgeon in the Confederate States navy, tells me we would have been in a fog without it.

Enlarged spleens will "melt away" under 10-grs. doses, discriminately given.

But this paper is not in antagonism to Dr. Brodnax' more recent plan of treatment. He is wearing the harness now with success, and that is the only interesting tale any plan of procedure can tell to a country physician.

The cumulative tendency of some of the old heart "commanders" would indicate cautionary procedure with the late coal-tar preparations.

In conclusion, quinine having brought us out of many a bother, it is but natural to speak a word in appreciation of it, though not thereby intending to decry any other remedy, for science needs them all.

The Savannah, Florida and Western R. R. Hospital Car,

Just built, has a wide door at the side for the admission of patients; is provided with a properly-equipped operating room and accommodation for patients. This is the first railroad, it is stated, to put a thoroughly-equipped hospital car on the track.

Art. VI.—Cataract Extraction—Results and After-Treatment of, as Exemplified by Cases Operated on during the Meeting of the Medical Society of Virginia. Also Operations for Tarsal Cyst, Pterygium and Ectropion.*

By JOSEPH A. WHITE, A. M., M. D., Richmond, Va.

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(CONTINUED FROM APRIL NUMBER.)

Tarsal Cyst.—The next case I present to you here is one of a very common affection of the eyelids, known as meibomian or tarsal cyst. We have two affections of the meibomian glands: one acute, which is a suppurative inflammation similar to the acute inflammation of Zeiss' gland, commonly known as a stye. The case before you, however, shows the other, which is a chronic enlargement of the gland caused by some obstruction in its excretory duct, in consequence of which its contents are retained, the gland becomes enlarged, with a cyst-wall containing the broken-down contents, which sometimes resembles sebaceous matter, and sometimes a dirty thick discolored liquid. You may have one or several of these enlargements in the lid. I have seen half a dozen present at the same time. They are more especially found in the upper lid. Local treatment is of very little avail. The only way to make a cure is to avert the lid, open the sac from the inside, empty the contents, and set up adhesive inflammation in the cyst-wall by scratching with a pointed probe, or by introducing a very small piece of nitrate of silver. Either, as a rule, is effectual. Some operators dissect out the whole sac.

The presence of these little tumors in the lid do no special harm, and are removed merely because they are more or less disfiguring. Frequently they empty themselves and disappear; but when the opening through which the contents are discharged heals up, they begin to fill up again, and this process is repeated from time to time until the sac

* Clinical Lecture delivered at the University College of Medicine on November 8, 1894.

is destroyed by operative interference. Occasionally one will disappear without operation, but it is rare.

Pterygium.—The next case is one of *pterygium.* As I have already explained to you, this is nothing more than a vascular hypertrophy or thickening of the conjunctiva of a triangular shape, with the apex towards the cornea. Pterygia are usually found at the inner or outer canthi, and also, but rarely, growing from above or below towards the cornea, their commonest location being from the inner canthus towards the cornea, and less frequently from the outer canthus towards the cornea.

You can easily understand why these should be the points of selection for these growths, because here in the opening between the lids the conjunctiva is more exposed to extraneous irritants. You have noticed frequently a little yellowish elevation to the inner or outer side of the cornea, which some authors suppose to be a deposit of fat, and which is called pinguecula. This is also a slight hypertrophy of the conjunctiva, and is, in all probability, the starting point of the pterygium, which, as it becomes thicker, also becomes vascular, assumes the triangular shape, and grows towards the cornea. As long as it does not overlap the corneal edge, it is a matter of no special consequence beyond giving the eye the appearance of being somewhat congested; but if it is allowed to overlap the cornea, it is apt to leave an opacity of that structure which is more or less disfiguring; and if not removed before it invades the pupillary area, it will interfere with vision. No satisfactory method has been proposed for aborting its growth. They sometimes become stationary, and then it is not necessary to disturb them; but if they are at all progressive, as most pterygia are, sooner or later they will invade the corneal surface, and they should be removed before they have extended far enough to leave indelible traces. Several operations are suggested for their removal, but I have found, in a twenty-five years' experience, that the most satisfactory is the one I will do to-day. The eye should be deadened with cocaine, the body of the pterygium grasped about the centre

with the fixation forceps, lifted from the subjacent sclerotic, and a knife passed just under its neck near the corneal margin, so as to make an opening, through which a very fine strabismus hook is introduced, and by a sudden pull towards the pupil the growth is torn from its attachment to the cornea. Then, still holding it in the fixation forceps, a cut is made with the scissors above and below towards the inner canthus, which frees it from all its attachments, and lays it back in the inner corner of the eye. It can be left hanging here, or it can be cut off, as you wish; but whether you leave it or remove it, it is very important to cover the exposed part of the sclera with the conjunctiva by two or three carefully adjusted stitches, which will draw it into apposition from above and below.

If the patient has to go home immediately, I usually use cat-gut, but prefer, if they can stay long enough to have the stitches removed, to use silk sutures, as, in my experience, they are less irritating. I have never seen a case of pterygium return after this operation. If you fail, however, to apply the stitches, so as to cover up the denuded surface of the sclerotic with conjunctiva, a return of the growth is not unlikely.

Ectropion.—The last patient we have before the class today is a case of ectropion of the lower lid, which is everted and drawn down to the lower orbital margin, the result of an injury some years ago, with improper adjustment of the wounded part. Ectropion, or turning out of the lid, so that its conjunctival lining is exposed, comes before us in all degrees, from the very slightest eversion to complete revolution of the lid. One of the most annoying results of even a slight ectropion is the constant flowing of tears over the cheek, because the punctum or entrance to the lachrymal sac is held away from the eye-ball, and does not catch the tears and pass them into the lachrymal sac and nose. This constant flowing of tears keeps up irritation, and tends to increase the ectropion. In more pronounced degrees of this affection, when the conjunctiva is more exposed, it becomes

thickened and glazed, sometimes becoming dry and scaly like roughened cuticle.

A danger from this turning out of the lid is a more or less interference with the transparency of the cornea due to its exposure to atmospheric irritants, from not being properly protected, and we may even have ulceration and destruction of the eye as the result.

We have several forms of ectropion, known as spastic ectropion, paralytic ectropion, senile ectropion, and cicatricial ectropion. You have all probably noticed in the children you have had before you suffering from affections of the cornea, with great intolerance of light and blepharospasm, that when we attempt to open the lid, the forcible traction upon it will sometimes turn it completely out, and we have some little difficulty in returning it. This is what is meant by spastic ectropion, and is due to spasmodic action of certain fibres of the orbicularis muscle. Any great thickening of the conjunctiva, as in trachoma and purulent conjunctivitis, can force the lid away from the eyeball and cause it to turn out by this action of the muscle, just as in blepharospasm. Paralytic ectropion is not so common, and is due to paralysis of the orbicularis; the lower lid turning out because of the inability of the muscle to keep it in apposition with the eyeball. Senile ectropion is nothing more or less than a form of paralytic ectropion, due to the natural feebleness of the muscles in old people, and resulting in inability to keep the lid pressed up against the eyeball, which condition is often aggravated and worsened by the more or less chronic inflammation of the conjunctiva, which so many old people suffer from. Cicatricial ectropion is due either to wounds, as the case before you, or to burns, or to abscesses in the lid, or periostitis of the margin of the orbit, or in fact any affection which will result in the formation of scar tissue and contraction of the lid, so as to turn it away from the eyeball in a greater or less degree.

Spastic ectropion should be treated by putting the lid back in place, and keeping it pressed against the eyeball by a proper bandage. In paralytic ectropion, we should also

employ the same means as in spastic, with the additional treatment directed to the restoration of the action of the muscle. Senile ectropion also can be treated by the use of a bandage, especially at night; sometimes it is necessary to resort to operation to replace the lid. Cicatricial ectropion can only be cured by operative interference, and the number of operations suggested are legion, depending entirely upon the location and form of the cicatrix, and the amount of ectropion.

In the case before you, the defect can be remedied by one of the simplest operations for the relief of this disfiguring affection—by a simple V-shaped cut, with the base towards the edge of the lid, and the apex downwards in the cheek, the flap including the scar which holds the lid drawn down. Where the two lines of incision come together on the cheek, the apex of the skin-flap is caught up by a pair of forceps, and with scissors dissected from the subcutaneous tissues upwards as far as the edge of the lid. Stitches are then applied, beginning at the apex of the open wound, drawing the skin together from below upwards in such a way that when the flap is set back, it is found to be lifted up so that the inner face of the lid, which was turned out, is replaced in apposition with the eyeball, and the edge of the lid restored to its proper location, where it is retained by suturing the flap in its new position.

200 *E. Franklin St.*

Art. VII.—Wounds of the Eye and Their Treatment.*

By T. EMMERSON MITCHELL, M. D., of Columbus, Ga.

Accepting the invitation of the programme committee to read a paper at this meeting of the Association, I naturally began to cast about for a subject; and, in doing so, no one presented itself to my mind that would likely be of more interest to the general practitioner than "Wounds of the Eye and Their Treatment." The subject is one of large

*Read before the Medical Association of Georgia, in session in Savannah, April 18th, 1895.

proportions, and one, too, upon which much might be written were it handled exhaustively.

I shall treat the topic, however, in a somewhat superficial manner, presenting it in as practical a way as possible consistent with the amount of your time that I propose to consume.

I shall make no attempt at originality of thought or go minutely into the technique of diagnosis or treatment, and shall presume that you are familiar with the anatomy and physiology of the eye and its appendages, the lids.

Little more than reference will be made to sympathetic inflammation, that much-to-be-dreaded complication or sequela of traumatic iridocyclitis.

A wound, as we shall consider it, consists of a solution of continuity of the eye or its appendages, produced either directly or indirectly by sudden mechanical force or by the destructive properties of some chemical agent as acids or alkalies, generally the latter in the form of lime, either slaked or unslaked.

For convenience of description, we may divide wounds of the eye, as in other parts of the body, into incised, punctured, lacerated, and contused wounds. Another classification would be into aseptic and septic wounds. So likewise we may have a simple, compound, or complicated wound—*simple*, when the agent producing the wound and any other foreign substance carried by it into the rent is removed; and *complicated* when any foreign body, whether the missile inflicting the wound or material carried by it, remains in the injured member. A *compound wound*, we may say, is one in which two or more of the integral parts of the eye sustains a simultaneous injury. Thus we may have a punctured wound of the cornea with an escape of aqueous and a lacerated and prolapsed condition of the iris. Indeed, compound wounds are more frequently met with than any other variety.

Our prognosis will depend largely upon the seat of injury, and upon its being simple or complicated. A simple wound, or a complicated one that is readily converted into a simple

one, may often offer a favorable prognosis, though there be considerable laceration of tissue, provided the injury be not in the ciliary region. That part of the eyeball comprising a zone extending from the sclero-corneal junction in front, posteriorly six millimeters and known as the ciliary region, has been very properly called by Nettleship the zone of danger, owing to the fact that wounds in this region are most apt to set up an intractable inflammation resulting in panophthalmitis with total destruction of the eye, and, by sympathetic involvement, its fellow of the opposite side as well. This is due to the anatomical fact that in this zone of danger is situated the ciliary body, composed almost entirely of blood-vessels, and the ciliary nerves as well as the peripheral attachment of the iris.

Those fundamental principles laid down for treatment of wounds in other parts of the body hold good here: (1), Arrest hæmorrhage, this will rarely be found troublesome; (2), Mitigate any existing shock; (3), Cleanse the wound of every vestige of foreign matter; (4), Render the wound absolutely aseptic by thorough irrigation with an antiseptic solution (corrosive sublimate 1 to 2,000–5,000); (5), Coaptation of the severed parts, by sutures, if necessary; (6), Antiseptic dressing; and (7), Position and rest, which latter we accomplish with atropia or scopolamine two to five grains to water one ounce, and a light-pressure bandage to control the movements of the lids.

We shall now speak of wounds of individual parts of the eye. *Contused wounds of the eye,* of which an ordinary black eye is a familiar type, are caused by blunt instruments; as, for instance, the closed fist of a combatant; and consist of extravasated blood (ecchymosis) from subcutaneous hæmorrhage and an infiltration of serum (œdema). If seen early, apply cold for several hours to lessen the effusion; after this, warm applications, evaporating lotions, such as lead water and laudanum, ammonium chloride five grains to alcohol one ounce, are indicated. Absorption of the effused material will usually take place in from seven to

fourteen days, leaving the eye physically and functionally unimpaired.

Incised wounds of the lids require careful coaptation of the divided tissues, more particularly if the margin is involved, or else there will be a traumatic coloboma and an annoying epiphora. Black silk or harelip-pin sutures are indicated, and the first suture should be at the lid margin. If not seen till twenty-four hours or more after the wound is produced, the edges must be pared to get healing by first intention.

Wounds of the conjunctiva alone are generally caused by some corroding agent, as acids or alkalies, and offer a favorable or unfavorable prognosis depending directly on the extent of corneal involvement. If seen in time, wash out the offending agent, and, if that be an acid or alkaline substance, use at once an application that will neutralize or render it insoluble, after which it may be removed as a foreign body. Atropinize the iris, subdue the inflammation with cold applications, and keep a soothing oleaginous substance applied until the resulting eschar is exfoliated, after which an antiseptic lotion with one of the following ointments will be indicated: Europhen, grains two; aristol, grains fifteen; or, iodoform, grains ten to petrolatum one drachm. If both the ocular and palpebral conjunctivæ are involved, there is imminent danger of the two raw surfaces becoming united by the resulting cicatrix binding the lid to the eyeball, producing what we know as symblepharon. To obviate this condition of things, the lids must be repeatedly separated from the ball, and an antiseptic gauze kept interposed till healing is complete.

Superficial wounds of the cornea are among the most frequent of accidents, and are caused by the deposition in its structure of small pieces of steel, emery, grains of sand, cinders from a railroad locomotive, etc. The symptoms are, photophabia, lachrymation, blepharospasm, and particularly severe pain with more or less irritation of the iris. With a 5-per cent. solution of cocaine, anæsthetize the parts, and, under focal illumination, lift out the offending body

with a specially shaped needle or corneal spud. In mild cases, little else will be needed save an irrigation of the conjunctival sac with an antiseptic solution and a light-pressure bandage during twelve to twenty-four hours, when the epithelium will have been reformed to protect the sensitive nerve endings. In more severe cases, with ciliary or iritic irritation, use atropia or scopolamine to paralyze the accommodation, and, as it were, put the iris in a splint.

The prognosis in this class of wounds is good. Incised, lacerated or punctured wounds of the cornea are more baneful in their results. There is usually an escape of aqueous followed by a prolapse of the iris, its fibres being entangled in the lips of the wound. If only the corneal tissue is impaired with a prolapsed iris, we may preserve the integrity of the parts, provided we see it early and the wound does not become infected. First, we assure ourselves that no foreign body remains in the eye. Second, we endeavor to disengage the iris from its corneal incarceration by careful manipulation with the spatula, assisted by an aqueous solution of atropia, four grains to the ounce, if the rent be near the pupillary opening; and with eserine, one grain to the ounce, if it be near its peripheral attachment. If we fail in this, as we most likely will do unless seen very soon after the accident, the portion prolapsed is to be grasped with a pair of delicate iris forceps, gently drawn out, and as much of it as possible clipped off with scissors, after which the stump may be disengaged by the assistance of a mydriatic or myotic, as the case demands. The conjunctival sac is then flushed with an antiseptic solution, the wound covered with finely pulverized iodoform, the lids gently closed, and a light pressure bandage applied. If the lens or its capsule be punctured, and although the iris remains intact and the cornea sustain only slight injury, there will be absorption of aqueous humor eventuating in traumatic cataract. If the agent inflicting the injury remain in the eye, our first effort should be directed to its complete removal, for without this the destruction of the eye by plastic iridocyclitis is almost certain to follow, and a

large per cent. are lost even with such removal. If the offending agent be located in the anterior chamber, the iris, or lens, we remove it through the original opening with forceps, or, in the case of steel, with the electro-magnet, if possible, or, failing in this, we may make a suitable opening for the purpose.

It must not be forgotten that wounds of the cornea, involving its integrity beyond Bowman's membrane, will be followed by a permanent opacity more or less dense, and an impairment of the eye's function by a diffusion of rays of light directly in proportion to their density and situation in the pupillary area of the field of vision.

Wounds of the sclerotic, while less frequent than those of the cornea, are not rare. If there is a prolapse of vitreous, it is to be clipped off with scissors, the opening in the sclerotic closed by fine silk sutures, the eye dressed antiseptically, and favorable or unfavorable results expected according to the situation and extent of tissue involved. If the lesion be in the zone of danger, and extend to and include the ciliary body, the eye will almost certainly be lost by iridocyclitis and panophthalmitis. It is hardly necessary to say that in all manipulations of the wounded eye, either instrumental or otherwise, the most scrupulous antiseptic precautions should be rigorously observed.

As to those cases in which *enucleation is indicated*, no definite rule can be formulated, since the intelligence, occupation and situation of the patient from the surgeon must be taken into consideration. Of course, the object of excision is to remove the peril of sympathetic inflammation.

It is fortunate that sympathetic irritation, which is to be clearly differentiated from sympathetic inflammation, usually precedes the latter, and serves as a signal for immediate enucleation. A wound involving the integrity of the zone of danger, or one in which a foreign body remains in the eye, is the most prolific cause of sympathetic disturbances.

The concensus of opinion of the best authorities endorses the observations of Deutschmann, that *sympathetic ophthal-*

mitis is of bacterial origin, the micro-organisms travelling by continuity of surface beneath the optic nerve sheath by way of the optic chasm from the offending eye to the sympathizing member. The time at which sympathetic inflammation usually begins is from four to eight weeks after the traumatism, no case being on record as having occurred sooner than two weeks (Fuchs), while a case has been seen sixty years afterwards, (Alt).

Sympathetic irritation is purely functional, and has for its symptoms, lachrymation, blepharospasm, neuralgic pain in the supra-orbital region, exquisite tenderness on pressure over the ciliary region, photophobia and impaired accommodation, the latter two being the more constant. When this condition of things obtains, immediate enucleation of the offending eye is the correct thing to do, and the surgeon who fails to appreciate the situation and advise his patient accordingly, falls far short of accomplishing his mission, inasmuch as a prompt removal of the source of irritation at this stage of the trouble will, in most cases, bring about a speedy subsidence of all symptoms and a retention of the normal acuity of vision. If, however, from any cause, enucleation has been deferred till sympathetic irritation has given place to well-marked symptoms of inflammation, it should by no means be performed, provided any degree of vision remain in the offending eye, because in the end it will most likely prove to be the more useful of the two.

Hence, *prophylaxis*, by enucleation of the offending eye before sympathetic ophthalmitis is precipitated in its fellow, is the only successful treatment.

Therapeutically, we may use atropia, hot fomentations, local blood-letting by leeches to the temple, setons in chronic forms, scleral incisions if the intra-ocular tension be great, and subconjunctival injections of hydrargarum bichloridum, together with confinement in a dark room; but nothing heretofore practiced has been of much avail in the treatment of a well developed case of sympathetic ophthalmia.

A safe working rule, with few exceptions, demands enucleation:

(1), When the wound is of such a nature as to destroy sight completely;

(2), When the wound is in the ciliary region, especially if the iris be prolapsed, rendering inflammation reasonably certain;

(3), When judicious efforts have failed to remove a foreign body and there is an iritis, even though vision be entirely destroyed; and,

(4), When the offending eye is blind, to remove a source of irritation and thus render treatment of an existing sympathetic ophthalmitis more effectual.

The prognosis of sympathetic inflammation is, hence, very grave, and the surgeon should not fail to so inform the patient, or his friends, and if an attempt be made to save the offending eye, it should be done only after a thorough understanding of the risk assumed as to sympathetic involvement.

As a substitute for excision, evisceration and optico-ciliary neurotomy have been advocated, and practised by some; but the concensus of professional opinion still adheres to enucleation as the safest line of procedure.

Art. VIII.—The Walking Treatment of Women After Confinement—Something New.*

By R. J. NUNN, M. D., of Savannah, Ga.

It is, of course, well known that women living in a condition most nearly approaching to a state of nature do not require the "days of lying up" after confinement, nor do they keep them, as do the more civilized races, or the cultivated races of society.

Even among those living most luxuriously, there will occasionally be found females, who, after delivery, return

*Read before the Medical Association of Georgia in Session in Savannah, April, 1895.

with extraordinary rapidity to their usual conditions of health; but, on the other hand, there are those upon whom child-bearing seems to produce a very serious impression, and therefore it becomes a question, of no less scientific interest than economic importance, to indicate some means by which these weaker and more tardy recuperators can be put upon an even footing with their hardier and more vigorous sisters.

Is it not possible, with the means placed at our command by modern science, to shorten the time of the "getting up," and to improve the condition of the parous woman?

Such is the question that our investigators should answer. To this there should be some reply. Perhaps science has not yet arrived at a point where it can answer satisfactorily, but at least it can show that it is alive to the importance of the question.

The difficulty of finding a suitable subject for experiment must not be overlooked, for of course no one would think for a moment of making a woman an unwilling victim to such an investigation. But to many there may fall cases like the following, in which a practical examination of this subject might be of great value, not alone to science, but also to the individual.

The subject of these notes was a multipara, who after the birth of her first child, had suffered with prolapsus accompanied with cystocele and rectocele, continual backache, was generally puny, miserable and run down, and was at best a small weakly woman, but withal a most determined character, as will be seen later.

One Sunday morning, the patient was delivered, and immediately expressed her determination of going to her work on the next day (Monday). No persuasion could change her resolution. Being a widow, she declared it to be a question of bread for herself and her children, and she concluded she might as well die one way as another. It was with her a question of work, or starvation.

Under these circumstances, it was decided to adopt the following method of treatment: Twice daily the patient was to use a douche of a warm solution of boracic acid, immediately after which she was to report at my office. Here

the uterus would be thoroughly cleaned out with aseptic water, and swabbed out with camphenodine (camphor, iodine and carbolic acid), the Faradic current used with a vaginal electrode, a tampon applied, and moreover an abdominal bandage was to be constantly worn.

The treatment was carried out for about two weeks, after which it was gradually discontinued, and in about a month the patient was discharged apparently cured, not having had a single untoward symptom, and declaring that her recovery had been better than after her first confinement, when she kept her bed ten days.

Since this course of treatment, which is now several months ago, she has been continually at her work, not having missed a day, enjoys better health than for years before, and considers herself cured of her prolapsus.

That this case has been of exceeding interest to me, is my only apology for bringing it before the profession.

As a guide to any one desiring to make further trial of this method of treatment, it may be well to recapitulate the principles upon which it is founded, which are, (a) thorough antisepsis, (b) effective internal and external support, (c) local stimulation to hasten involution of the uterus, and the return of other overstrained parts to their normal condition, and (d) where necessary, the use of such appropriate general medication as may be indicated.

Art. IX.—Double Athetosis—Report of Two Cases.

By WILLIAM F. DREWRY, M. D., of Petersburg, Va.,

First Assistant Physician Central State Hospital; Member American Medical Association; Associate Member American Medico-Psychological Association, etc, etc

To our own country belongs the honor of first recognizing athetosis as a distinct nervous disease, with a clinical history and a pathology peculiar to itself. Twenty-four years ago, Dr. William A. Hammond published the first description of it. Since then, several neurologists have given attention to this curious and rare affection, but to the general practitioner it is still comparatively unknown.

Prior to 1871, it was doubtless classed, as it still is by many authors, with spasmodic or choreic affections. It is regarded by some of these as a complex type of post-hemiplegic chorea.

Athetosis is a cerebral affection, presenting a combination of symptoms characterized chiefly by a more or less constant mobility of the extremities and an inability to retain them in any fixed position. These morbid, grotesque, involuntary movements are slow and wavy, somewhat regular and rigid, are not jerky, spasmodic, nor tremulous. The movements of the digits are quite different from those attending any other disease, impossible to imitate even by the most skillful maligner, and, if once seen, are not likely to be forgotten.

"In an athetoid hand," says Starr, "the interossei and lumbricales, which flex the metacarpo-phalangeal and extend the phalangeal joints, are affected; rarely are the long extensors and the long flexors affected. Therefore the hand is usually in the so-called interosseal position, with flexion of the proximal and extension of the middle and distal phalanges. The athetoid movements of the toes correspond to those of the fingers in point of action."

In a great majority of cases, the disease is confined to one side (hemi-athetosis), and is a sequel of hemiplegia.

The differential diagnosis of athetosis is generally easily made. The only nervous affections with which it could possibly be confounded are chorea and paralysis agitans. Attention to the twitching, spasmodic, fibrillary movements, having a quick beginning and a quick ending, which is characteristic in Sydenham's chorea would at once exclude that disease.

These jerky movements peculiar to St. Vitus' dance may be easily detected in a few or many muscles, if moderate care and patience be exercised on the part of the examiner. This form of chorea is almost always a disease of childhood. So-called post-hemiplegic chorea is, in the opinion of both Hammond and Gray, simply athetosis.

The silly, dancing, posturing, wiry movements, and the

facial distortion observed in Huntington's chorea would hardly be mistaken by a careful observer for athetosis. The two diseases, however, are somewhat alike.

Paralysis agitans (shaking palsy), with its coarse tremor, peculiar *facies*—blank immobility—shuffling gait, the "bread crumbling" attitude of the fingers, deliberate speech, would readily be eliminated, even by a novice. It is, too, usually a disease of advanced life.

The following cases, which have come within the scope of my personal observation, illustrate the chief features of the disease under consideration:

CASE I.—*Double (or, more strictly speaking, Quadruple), Athetosis—Associated with Epilepsy and Insanity.*—The patient was a negro woman, twenty-six years old, when she was admitted into this, the Central State (Va.) Hospital, in April, 1886. She had had epilepsy of the *grand mal* type for a number of years; was the mother of one child; and earned her living as a domestic. A careful physical examination revealed nothing of importance as an etiological factor. Following in the footsteps of many of those unfortunates afflicted with epilepsy, she degenerated into a state of almost absolute imbecility.

Some degree of mental deficiency seems usually to accompany athetosis, even when uncomplicated by any other degenerating neurosis.

Athetoid symptoms of an aggravated character, involving both upper and both lower extremities, had developed previous to her admission into this hospital, but it was impossible to find out when and how they began. She had never had, to the knowledge of her friends, an attack of "apoplexy," nor of paralysis. The head was symmetrical, and without scars thereon.

The pedal extremities involuntarily assumed various distorted positions; were constantly in motion. The toes were usually in a state of tonic spasm; contracted, and drawn downwards or extended, pointing upwards, and slightly separated. Irregular alternate extension and flexion of the toes were marked. The feet were moved upon the ankles in a stiff and awkward manner. During these "complex involuntary movements," the muscles of the calf became hard and rigid. The act of walking was accomplished with considerable difficulty, on account of contractures and be-

cause the feet were not exactly under the control of the will.

The unnatural movements of the hands corresponded to those of the lower extremities, though they were more constant and active. The fingers, including the thumbs, were usually widely separated and extended, though they were sometimes slightly flexed. The hands were continually in slow, methodical, quasi-rhythmical motion, never remaining long in the same attitude. In grasping an object, the palm of the hand was used, it being difficult to approximate the digits. The wrist-joints were also implicated, there being alternate flexion and extension. In fact, these odd contortions affected the entire limb from the shoulder to the digital extremities. When standing or walking, the arms were held out horizontally as if to maintain the equilibrium of the body.

The patient's general physical health was fairly good. She frequently complained of headache; was exceedingly irritable, the slightest interference giving rise to violent outbursts of temper, when she would break windows, tear her clothing, scream, and all the athetoid movements would be intensified. Speech was "jerky" and explosive and otherwise disordered, which gave it a distinctive character. Sensations of every nature seemed to be normal, and the special senses were unimpaired, as far as could be ascertained in one so feeble-minded. Nystagmus was never observed, and the pupils were normal, except when the epileptic seizures came on, which was frequent, notwithstanding most persistent treatment.

Death occurred in January, 1895, after an obstinate attack of *status epilepticus*, which could not be alleviated in the slightest degree. The effects of morphine, atropia, chloral, nitro-glycerine, etc., were *nil.*

Pathology.—An *autopsy* was held a few hours after death, but I was unable to find with the naked eye any pathological lesion within the cerebrum to account for any of the affections, viz., epilepsy, insanity and athetosis, from which this woman had suffered for a number of years. There were, however, slight general atrophy and sclerosis of the convolutions, and pachymeningitis and meningeal adhesions were observed over the cortical region.

The pathology of athetosis is still an unsettled question. There seems to be a bewildering diversity of opinion regarding the seat of the disease. Hammond, basing his opinion

upon several autopsies, thinks that the affection is caused by irritation of the optic thalamus, or the corpus striatum, or the cortex, but never by a lesion of the motor tract.

Dr. Landon Carter Gray thinks that the brain lesions of the cerebral palsies of childhood often produce athetosis.

Dr. Archibald Church, of Chicago, says: "In double athetosis it is reasonable to suppose that the lesion must be cortical, as it is difficult to imagine symmetrical damage at the base, while the vulnerability of the cortex and its liability to inflammatory processes, which are capable of producing permanent effects, lays it liable to widely distributed lesions not rarely symmetrical."

In my case, it was shown at the *post-mortem* that the cortex was certainly the seat of inflammatory processes.

Further observation is necessary to determine the exact pathology of this singular affection.

CASE 2.—*Idiopathic Bilateral Athetosis, Associated with Idiocy.*—Martha S., a negro girl, fifteen years old, was admitted into this hospital in April, 1891. She has been from infancy idiotic and affected with typical athetosis of both upper limbs and of the body and the face.

The movements of the arms and hands are in all essential points similar to those in the preceding case. Her feet are not affected with athetoid movements, but when she moves about she does so quickly, in an awkward half-run, different, however, from the gait sometimes seen in paralysis agitans. The inco-ordination between the flexors and extensors of the fingers is more marked than in the other case; and like that case the involuntary and complex movements of the digits are intensified by excitement, change of position, etc. It is seldom that the hands assume their normal physiological positions—only when the patient is profoundly asleep or at absolute rest. When sitting down her body is in a constant to and fro motion. Her mouth and jaws are to a certain extent involved in the athetoid movements. All these singular movements of the hands, body and face seem to be wholly independent of volition. She has never in her life been able to utter a distinct word. When called or spoken to, she utters a peculiar shrill sound or cry something like, "o'whay, o'whay," and her hands are thrown about and contorted—abducted and adducted and spread out—in the most haphazard manner. Some vaso-

motor disturbance is sometimes observed. Like Case No. 1, this patient, when fatigued or irritated, perspires quite freely. Furthermore, she has never had convulsions nor hemiplegia or paralysis of any kind. Eyes are normal in every particular. There appears to be some weakness of sensation or partial (very slight) anæsthesia. This, however, may be due to her mental enfeeblement.

Differing from most cases I have seen reported, the tendon reflexes in this case are abolished. Though nearly twenty years old, Martha has never menstruated, nor are the mammæ developed beyond those of a child before puberty. At this time she weighs only seventy-four (74) pounds, and is in excellent health.

The accompanying photograph of Martha, taken April 15, 1895, portrays very accurately the above-described athetoid symptoms.

Athetosis is, practically, an incurable disease. A few recoveries, however, have been reported. Hammond had good results in one case from the stretching of the median nerve. Gowers has found electricity to be very beneficial. Hyoscyamus, bromide of potash, cannabis indica, and other sedatives, alteratives and tonics, have all been recommended.

Horseley thinks that in every case of the disease the surgeon's knife should be used, and the cortical centers involved be removed—rather heroic, it appears to me, certainly in the double form. The choice, when considering such treatment, is between partial paralysis, at least for some time, and the athetosis.

In the cases reported in this article various therapeutic measures have been resorted to without any satisfactory results.

BIBLIOGRAPHY.

Collins, J. Athetosis with beginning Tabes (Clinical). *Journal of Nerv. and Ment. Diseases*, April, 1895.

Church, Archibald. Athetosis. *Review of Insanity and Nervous Diseases*, March, 1892.

Eulenburg, A. Athetosis. *Cyclopœdia of the Prac. of Med.* (Ziemssen), Vol. XIV, 1877.

Gowers, W. R. *Diseases of Nervous System*, 1893.

Gray, L. C. Athetosis. *Nervous and Mental Diseases*, 1893.

Hammond, G. M. Pathological Findings in a Case of Athetosis. *Alienist and Neurologist*, July, 1891.

Hammond, W. A. *Nervous Diseases*, 1871 and 1886.

Hogan, Hugh. General Athetosis. *New York Med. Journal*, Jan. 16, 1891.

Hun, Henry. *Annual of Universal Medical Sciences* (Sajous), Vol. II, 1890.

Knapp, P. C. *Annual of Universal Medical Sciences* (Sajous), Vol. II, 1891.

Rosse, Irving C. Athetosis. *Reference Handbook Medical Sciences*, Vol. I, 1885.

Ranney, A. L. *Lectures on Nervous Diseases*, 1888.

Sallier, Paul. *Annual of Universal Medical Sciences*, Vol. II, 1894.

Sinkler, Wharton. Athetosis. *Pepper's System of Medicine*, Vol. V, 1886.

Oulmont, in 1878, and Audry, in 1892, published exhaustive articles on Athetosis. The latter's admirable monograph related only to the double form.

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Clinical Reports.

Case I.—Passage of Hard, Non-Fusible Phosphate of Lime Calculus from Bladder. Case II.—Polyuria Due to Tubercular Peritonitis.*

By WILLIAM S. GORDON, M. D., Richmond, Va.

PRESIDENT RICHMOND ACADEMY OF MEDICINE AND SURGERY; PROFESSOR OF PHYSIOLOGY, UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA.

I wish to report two cases, each presenting one or more noteworthy points.

CASE I.—The patient was a young man, about twenty-four years of age, who consulted me in November, 1894, for a dull, deep-seated pain in the left lumbar region. His health record up to that time was good. Suspecting, from the nature of his symptoms, that the kidney was the seat of trouble, I made a careful urinary analysis; but finding no pathological condition, prescribed palliative measures and awaited results.

On February 24th last, he was seized with severe left lumbar pain, paroxysmal, characteristic of nephritic colic, and accompanied with nausea, vomiting, constipation, slight jaundice, and moderate but irregular rise of temperature.

I was called to him on February 26th, and the diagnosis made of the descent of a calculus from the pelvis of one of the kidneys. The symptoms pointed at first to the left kidney as the one involved, but subsequently the pain extended across the back, and centered mostly in the right side towards the termination of the attack. Cathartics, hot applications, and baths, alkaline diuretics, demulcents, and morphine comprised the treatment. The suffering was at times intense, giving rise to epileptoid seizures.

On the morning of March 5th, the calculus started on its urethral journey—having passed into the bladder a day or two previously—and dropped into the vessel after the patient had struggled with it for fifteen minutes. He celebrated the event, much to my regret, by sitting up in bed and whittling upon the stone with a pen-knife; so that I cannot show it to you in its entirety.

My own analysis of the stone proving unsatisfactory, Mr.

*Read before Richmond Academy of Medicine and Surgery, April 23d, 1895.

Hugh Blair kindly undertook the task, and after some difficulty proved it to be an unusually hard, non-fusible phosphate of lime calculus. It is one of the largest I have known to pass from the pelvis of the kidney, weighing eight grains. It must have weighed originally about twelve grains.

Since his attack the patient has suffered from obstinate biliousness, but is now rapidly regaining his health.

Subsequent inquiries reveal that for two years or more he resided in a marked limestone region, drinking the water, and being troubled with more or less indigestion. This is stated for what is worth. During the attack the urine was excessively acid, scant, and bile-colored, but otherwise normal. The patient says that, previous to the attack, he had been passing a brick-dust deposit, and that several days before the passage of the large calculus, a small, though softer, one had appeared at the meatus. I had no opportunity of examining the deposit, or the smaller calculus, and am therefore in doubt as to whether the phosphatic preceded a uric acid condition in this case.

It would be instructive to know what relation, if any, or association there was between the two. The future may solve the problem.

Case II.—A colored child, six years of age, was brought to me last summer with dyspepsia, debility, and some emaciation. The symptoms pointed at that time to gastric disturbance, for which I prescribed, charging the mother to inform me within a reasonable time of the patient's condition. I heard nothing more of the case until December last, when she was brought to me again with symptoms about the same in character, but more pronounced. I prescribed an alterative tonic and requested that the child be brought to me again for closer examination.

This was not done, and I did not see the case again until March 1st of this year. The symptoms were as follows: Anorexia, anæmia, marked emaciation and debility, irregular chills and fever, œdema of the feet and legs, diarrhœa, and extreme thirst and polyuria. The lungs and heart were normal, and no family history of tuberculosis was obtainable. The temperature on March 2d, at 12:30 P. M., was normal, and the pulse one hundred or more.

The mother's statement that the child drank from half a gallon to one gallon of water a day and passed an equal amount of urine, coupled with the fact that I was not permitted to watch the case, led me to suspect diabetes mellitus.

The analysis of the urine, however, showed it to be almost like pure water, the specific gravity being 1,000, with an acid reaction. No phosphates were precipitated, but the sulphates and chlorides were noticeable. At my next visit I examined the abdomen, finding it swollen and tender; and the diagnosis of tubercular peritonitis was easily made.

Slight improvement took place under alteratives and tonics, with a decrease of the thirst and polyuria; but treatment soon became inefficacious, and the child died from exhaustion on the 9th of this month.

It is well known that so-called diabetes insipidus may be caused by certain abdominal diseases. Polyuria is probably a better term to express the renal condition associated with abdominal trouble, inasmuch as true diabetes insipidus is supposed to be dependent upon direct or reflex excitement of certain areas in the bulb. Tubercular disease affecting the bulb in any way would cause polyuria through local dilatation of the renal blood-vessels; but just as likely this would be counterbalanced or overcome by the contraction of the renal vessels, which is disproportionate to the contraction of the abdominal vessels, dependent upon the morbid stimulation of the cord. We are thus led to believe that abdominal disease leads to polyuria by pressure upon the abdominal blood-vessels, or stimulation of the abdominal vaso-constrictor nerves, both of which conditions would increase the renal blood pressure and thus result in polyuria.

The practical point to bear in mind is that polyuria may be one of the most prominent symptoms of tubercular peritonitis, even when the abdominal symptoms are not marked. The tympanites in this case was not always very noticeable, and the other abdominal symptoms could have been caused by other morbid states. In such cases the underlying morbid condition may escape detection unless great care be exercised.

Case of Endothelial Sarcomata of Vermiform Appendix.*

By LARKIN W. GLAZEBROOK, M. D. of Washington, D C.

November 21st, 1894, I was called upon to perform a necropsy upon G. G., æt 55, colored; weight 150 pounds, and nutrition good. The man had died suddenly while at his work, and was supposed to have been poisoned. Chemical analysis, however, showed no evidence of foul play, but cerebral hæmorrhage from the left posterior cerebral artery was found, which accounted for his death—the vessels throughout being atheromatous. In examining the abdominal cavity, my attention was called to the appendix, which I found in its normal situation, but bound down by dense adhesions. Seeing that it was enlarged, I removed it and carefully examined it. It was of normal size for three inches from its intestinal attachment, but at this point there was an enlargement about the size and shape of a pigeon's egg. This enlargement was, I found upon section, in the anterior wall of the canal. As my scalpel passed through the mass, I was surprised to find it so hard and fibrous. I was struck by its resemblance to small scirrhus tumors; so I sent the specimen to Dr. Phillip Jaisohn, pathologist to Garfield Hospital, to examine.

I quote the most important part of his report: "I made several sections and examined them very carefully. The growth is undoubtedly of malignant character, and of endothelial sarcomata variety. The cells are different from the normal endothelium, being very large, thick and irregular in shape. A good many of them are cuboidal or cylindrical. Evidently the growth originated from the serous or subserous coats of the appendix and the sarcomatous cells, as well as some leucocytes infiltrated into the muscular and mucous coats. The general topography of the growth resembles very much the stroma and arrangement of the blood vessels of the different layers covering the appendix. As you know, endothelial sarcomata are rare. Whenever they occur, generally on the serous surface, they take their origin from it, and often form metastasis."

After finding the mass, I examined carefully for a metastatic growth, but was unable to find any. There, however, was enlargement of the mesenteric glands, on the right side. I have been unable to find a report of any case of malignant growth involving the vermiform appendix. This specimen is, therefore, of double interest, being of the endothelial variety.

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*The specimen and paper were presented to the Washington Medical Society, February 6th, 1895.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary; Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va.

A Case of Double Ectropion Uveæ—So-Called.

Mr. J. A., aged 27, applied for treatment for obstinate monocular neuralgia. The right pupil, when dilated with atropia, presents the following appearance: Projecting from beneath the pupillary margin, at the centre of the upper inner quadrant, are to be seen three small highly pigmented bodies; they may be three separate bodies, or they may be all springing from one body; the central one is the largest, measuring from one mm. by one-half mm.; the other two measure about one-half mm.; these bodies must be almost flat, as they cause no demonstrable protrusion of the iris lying over them, and yet it can be plainly seen that they spring from the posterior surface of the iris, as the iris edge can be traced over the surface of them, and is here intact.

Refraction. + $\frac{3}{8}$ D. sph. c. + $\frac{4}{8}$ D. cyl. ax. 90°. V. normal.

At the centre of the upper inner quadrant of the left eye, projecting from beneath the pupillary margin, may be seen two bodies similar to those seen in the other eye; these are about the size of the two smaller ones mentioned as existing in O. D. Refraction same as O. D.

Besides the existence of these bodies, there are no visible abnormal intra-ocular conditions; the persistent neuralgia was due to right hyperphoria.

The above two cases belong to the class called *ectropion uveæ*. The histology of these growths has, so far as we know, not been determined. It is not unlikely that they are the result of abnormal development of the two layers of pigment cells of the iris. The fact that they have been observed to increase in size, become more or less globular, become possessed of a visible pedicle, become separated from their iritic attachment and absorbed, must, it is not unlikely, be attributed to the trituration process to which they are subjected by the constant muscular action of the

iris. In neither of these cases does there exist anything to suggest the relationship between these cases and myopia, nor does it seem likely that there exists any such connection. The name ectropion uveæ is, it would seem, badly chosen. (Compare Howe: "Three Cases of Ectropion Uveæ." *Transactions Amer. Ophth. Soc.*, 1894.)

A Case of Corneo-Conjunctival Burn Due to the Bursting of a Bottle of Smelling Salts.

On October 20th, 1894, Miss D., finding that the stopper to her bottle of Crown lavender salts was so firmly caught in the neck that she was unable to remove it, placed the bottle in a pan of boiling water, hoping thus to loosen the adhesion of the stopper. After waiting some moments, and finding that the stopper was as tightly caught as ever, she put her face close to the bottle to watch the stopper. While her face was within three or four inches of the bottle, the salts suddenly volatilized, the contents of the bottle emptying themselves directly into her right eye. The pain thus caused was excruciating. Miss D. was treated by her physician, who used boracic acid, cocaine, and atropia.

About November 20th, I was asked to see the case. The conjunctiva had healed, leaving it, however, with a slightly yellowish discoloration. The corneal surface for its whole extent was rough and uneven, showing that the outer layers of the cornea had, to a greater or less extent, been destroyed at the time of the explosion, and that they were regenerating themselves unevenly. The whole cornea was misty. The eye was very sensitive to light, and Miss D. had suffered acutely ever since the injury had been received. V=outlines of objects; lachrymation. Fundus could not be made out. Treatment ordered to be continued, with the addition of constant use of vaseline to prevent, as far as possible, friction between lids and cornea.

When I next saw Miss D., December 14th, V=$\frac{16}{200}$(?). Discoloration of conjunctiva, which seems to have lost permanently its moist, glistening appearance. Entire cornea still misty, slightly milky in appearance. Eye can stand the light fairly well, although a bright light is still painful. Applied, under cocaine, galvanic current to entire corneal surface, for about two minutes. Current again applied December 23d.

On Jan. 4th, V=$\frac{16}{70}$ imperfectly. Current again applied.

On Jan. 14th, V=$\frac{16}{50}$ imperfectly. Current.
Jan. 18th, V=$\frac{16}{40}$ imperfectly. Current.
Feb'y 1st, V=$\frac{16}{20}$ imperfectly. Current.
Feb. 11th, V=$\frac{16}{15}$ imperfectly. Current.
Mch. 20th, V=$\frac{16}{15}$ imperfectly.

As the patient lived in another city, applications were not made more frequently. The treatment between visits consisted of hot salt applications to the lids, vaseline to the conjunctiva, with an occasional instillation of atropia solution.

The exact value of the galvanic current upon tissues in which exists a tendency to the too rapid production and contraction of newly-formed connective tissue, it is difficult to estimate. That the galvanic current has some action must be admitted, in view of the many reports of the value of this current upon newly-formed scar tissue in other parts of the body. Its action in clearing up large opacities of the cornea, provided they are of recent date, is sometimes very marked. How the current acts is a question. Is it by its stimulant effect upon the nerve endings in the neighborhood of the new connective tissue, causing the extension of trophic nerve filaments into this area? It can scarcely act by causing an increased blood supply to the part. Hot applications, irritants applied locally, would accomplish that much, and yet have very slight and slow effect in hastening the absorption of the new connective tissue cells. For the purpose of causing the disappearance of the new tissue and to prevent its further formation, would the so-called catalytic action of the galvanic current seem to be indicated?

One point in connection with the application of the galvanic current to the cornea through a platinum electrode, is to be noticed. The cornea was first rendered insensitive by means of a cocaine-bichloride solution. After the current, five cells of dry chloride battery, had been applied for a few seconds, the superficial layer of the cornea begins to peel off, and the current is thereafter applied directly to the affected area. It is well known that following several applications of a cocaine-bichloride solution, that the super-

ficial layer of cornea at times peels off, even without the application of the current.

In the case of Miss D., it would be interesting to know to what an extent this peeling off was due to the effect of the current, and how far to the action of the anæsthetic; and also if the direct action of the current proved to be of more value than an indirect one. During some of the applications, the epithelium could be seen to separate as the electrode passed over it.

The Acute Ethmoid Cough.

The causative relation between diseased intra-nasal tissues and many cases of asthma, is now more or less well recognized. Attempts have been made to map out definite intra-nasal areas, and to assign to these, to the exclusion of the remainder of the intra-nasal surfaces, the power to originate reflexly, as the result of irritation, cough. These attempts have, however, not met with general reception; individual peculiarities depriving in certain persons it would seem these areas of the power of thus originating reflex cough, while in other persons almost any part of the intra-nasal spaces seems to be possessed of this power. There is one portion of the intra-nasal spaces to which we would call attention in this note.

It not unfrequently happens that a person, as a rule a young person, is affected with a stubborn cough, one resisting, it may be, the winter long, and until late in the spring, all efforts to obtain amelioration by either internal remedies, local applications to the throat, or external applications to the chest and neck. These cases form a not inconsiderable number on the minor despair list of the family physician. Physical examination of the heart and lungs is negative. Examination of the larynx will reveal nothing which ordinarily would attract our attention, or even should there exist a subacute laryngitis, as is frequently the case, treatment directed to this part is absolutely devoid of results, so far as lessening the cough is concerned. In the pharynx and naso-pharynx, there may be, or there

may not be, slight chronic congestion, with moderate enlargement of the faucial and naso-pharyngeal tonsils; but in these cases nothing different is to be noted from the appearances presented in the similar regions of hundreds of other cases in which cough, as a symptom, plays absolutely no part. In these cases, the acts of coughing may be single or they may be so numerous as to become coughing spells very exhausting in nature. In the majority of these cases, so far as we have been able to observe, the cough is worst at night.

The irritated area, according to the patients, is judged to be somewhere between the larynx and the lower part of the trachea. The region of the cough-compelling sensation is, however, most indefinite; indeed, cannot be localized by the patient.

In these cases, again, there is little or no expectoration, the chief symptom being a persistent cough, the acts of coughing varying much in number and severity in different parts of the day, and, apparently, according to no law. These patients have all a cold in the head, varying much in its manifestations. There may be entire loss of smell.

In one case, the two symptoms complained of were coughing spells, which had lasted the greater part of each winter and spring for three or four years, and "entire loss of sense of *taste*." In other cases, especially in young children, the loss of the sense of smell cannot always be proven to exist. There always exists an excessive secretion of nasal mucus, varying much in consistency according to the age of the patient and the duration of the disease.

A casual intra-nasal examination, made by either anterior or posterior rhinoscopy, fails to reveal more than is seen usually in any ordinary case of cold in the head.

A careful rhinoscopic examination reveals, however, the following interesting state of affairs. In making of this examination we shall often be assisted by the use of cocaine, applied on a cotton holder. On touching, with this cotton holder, the middle turbinate or the septum in its region, the patient has an irresistible desire to cough, and will re-

produce for us, in a slightly modified form, the cough from which he has been suffering. In these cases, this cough may be caused whenever we choose, by thus rubbing the middle turbinate bone or the septum adjacent.

We here usually find that the middle turbinate lies against the septum, to a greater or less extent, chiefly along its lower internal border, near the anterior end. Before the application of the cocaine, it may be impossible to demonstrate the existence of secretions, abnormal in amount, occupying the space between the middle turbinate and the septum, and this whether we examine the nasal cavities from behind or before. Again, however, we may be able, by anterior or posterior examination, or both, to see mucus in this space. In the case of very young children posterior rhinoscopy, owing to the contracted state of the naso-pharynx, is most unsatisfactory, and is rarely of service to us as a method of diagnosis in the cases of which we are treating. Here we have to rely upon the anterior examination.

Where there exists no true hypertrophy of the middle turbinate the application of cocaine will cause it to shrink away from contact with the septum, and thus we shall be able to obtain a more or less clear view of the middle turbinate septum. Here will be revealed an accumulation of mucus, varying in consistency according to the duration, etc., of the inflammation. As to the action of this mucus in causing a cough we may only conjecture. It may be simply the result of pressure upon the mucous tissues covering the septum and the middle turbinate; again, it may be, and I think this the more likely explanation, the irritant action of this mucus undergoing the process of decomposition. The mucous discharges of the early stages and muco-purulent of the later stages of acute catarrhal processes rapidly undergo decomposition, and either the products of this decomposition or of the bacteria, which rapidly multiply in these muco-purulent discharges, have a markedly irritant action. It may be to these products, rather than to the actual presence of the mucus, that we must look for the explana-

tion of the origin of the reflex cough in the case of what we have termed acute ethmoid cough.

The treatment should be local. General treatment is, so far as my experience goes, most unsatisfactory; unless by the term general treatment one includes change of climate, which will often, but not always, produce a rapid amelioration, provided, of course, the change be from a cold and variable climate to a warm and even one. This is not always the case, however; but the exceptions admit of explanation on other grounds. (I merely mention the hay fever patients, which are not included in this note on acute ethmoid cough).

The local treatment, which I have found to act very well, is the following: Shrink the swollen middle turbinate with a 4-per cent. cocaine solution, applied on a cottoned probe. When this has been done, remove either with a small probe or by a spray the accumulations in the middle turbinate-septum space. This should be done once a day. In some case this is all that is necessary. In others, however, where the swollen condition of the middle turbinate rapidly recurs and the secretions thus prevented from freely escaping, it will be advisable to apply chromic acid along the inferior inner border of the middle turbinate. The shrinkage thus produced will keep open the air space, and thus allow a free escape of the secretions. It is well after this has been accomplished to see that this space is kept free for a few days. The application of the chromic acid may be required in both nasal chambers. (In the above note, I have purposely avoided considering the various troubles, local and reflex, which result from clinically diseased ethmoidal tissues. Periodic inflammations have also been omitted. I have wished to call attention to what I believe to be an affection sufficiently well defined in its nature, symptoms, and history to deserve a name apart).

The Results of the Operation for Strabismus.

The above is the title of an article by Prof. C. Schweigger, of Berlin, in the *Archives of Ophthalmology* for January,

1895. The whole article is a remarkable example of the persistence with which (so far as we may judge from the published writings) the greater European lights in ophthalmology cling to the very dark teachings in regard to strabismus that preceded the days of George Stevens. There is, in the whole of ophthalmology, to a thoughtful and observant student, nothing more unsatisfactory than the European teachings in regard to strabismus, its cause, and especially its treatment, in so far as precise indications are concerned.

In regard to strabismus, the teachings of the old school—*i. e.*, those who do not belong to the school founded upon the teachings of Dr. Stevens—ding-dong into our ears the eternal sing-song of the internal and external recti muscles. They allow no escape from these two sets of muscles, and yet there exist the superior recti, inferior recti, and the obliques, all of which have an effect upon the position of the eye-ball.

It is no wonder that although "the operation for strabismus is an every-day occurrence in the practice of a busy ophthalmic surgeon, we nowhere find any account of the results obtained." As long as strabismus is looked upon as the product solely of a lack of balance between the internal and external recti, working under the guidance of an internal accommodative apparatus, no surgeon will obtain results which will bear the test of time, no surgeon will have results that he will be satisfied with if his object be to obtain a condition comparable to the normal one.

Were I asked what department of ophthalmology is most difficult, I should say that which treats of strabismus. The operation for cataract, and the skill to be exercised in the treatment of the complications following this operation, are simple in comparison with the operation for strabismus, if properly done. It requires little knowledge of the eye to be able to make a section of the tendon of the internal or external rectus, little skill to be able to advance a muscle. These are infantile accomplishments; merely a

bucket of whitewash, a fence, and a brush. Anybody can do the work. That the operation for strabismus may be properly done requires a vast deal of knowledge in regard to the eye, and the possibilities of accommodation, the full recognition of the action of the external muscles individually and collectively, the ability to recognize the influence of pathological conditions, and the existence and effects of anatomical variations of many kinds affecting the ocular apparatus. One must take into account the effect of the general health on muscular activity.

That the operation for strabismus may be properly done presupposes a knowledge of the effect of partial and complete tenotomies, of injury to the body of the muscle, of injury to the capsule of Tenon, that wonderful arrangement for steadying the individual muscular action in its widest excursions in contraction and relaxation. This latter knowledge can be obtained only from individual experience, which experience though it may, to some extent, be regulated by the experience of others, must brand, with its own red-hot iron, its every possessor, and he must indeed have a short memory who forgets some of the lessons thus learned. An operation for strabismus properly done requires the exercise of the highest judgment and skill of the ophthalmologist. Here are the paints, the brushes, the canvas. Who will transfer yonder landscape?

Before an operation for strabismus should be attempted, repeated tests should be made, and especially should vertical deviation be sought for. More than one case of "internal squint" has been remedied by section of the *superior rectus;* which being the case, what would have been the result of tendon section or muscle advancement of the internal or external rectus? Only a confusion worse confounded. Only a removal of the possibility of a remedy. Many and many a case of internal squint has been operated upon in childhood by "freely separating the tendon and the capsule of Tenon." And the result? Temporarily a "visible improvement," followed later on by an outward squint, and

the patient grown carries forever hard feelings against the operator who beautified his younger days.

Let us look for one moment at Schweigger's "simple tenotomy," which he performs "as follows: The conjunctiva over the insertion of the muscle is seized with the forceps, and a small incision is made, into which the forceps are introduced, the tendon grasped, and opened close to its insertion. Through the orifice I next pass a blunt hook, stretch the tendon, and then separate it from the sclera with scissors, passing the latter first up and then down, or *vice versa.* I insist on distinctly seeing the insertion of the tendon, and I only consider the separation as perfect when the hook passed up and down, between both ends, can pass freely to the corneal margin. It may happen, especially in tenotomy of the internus, that above and below the insertion the hook meets with an obstruction which has nothing to do with the muscle, but is an anterior venous stem from the choroid, the division of which may be followed with copious hæmorrhage, but otherwise is of no account. If we desire an extensive effect, the scissors, after making the conjunctival incision, are pushed along the anterior surface of the muscle, to the caruncle, and the tissues loosened freely to divide the fibres that pass from the internus to the caruncle, and to let the muscle retract as much as possible, as suggested by Lebreich. We should not forget that in those days it was thought improper to loosen the muscle from the conjunctiva in this operation. If the conjunctival incision is too large, a suture is inserted, but not too deeply, because if applied horizontally, so as to enter the subconjunctival tissue in Tenon's capsule, it may spoil the result of the tenotomy by drawing forward the divided muscle."

(TO BE CONTINUED IN THE JUNE NUMBER.)

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga.,
Lecturer on Dermatology, etc., in the Southern Medical College, Atlanta.

Eczema of the Lower Lip.

I have at present under my care a young man, 27 years old, who for the past nine years has suffered from eczema of the lower lip. The disease affects the vermilion border of the lip, encroaching slightly upon the external surface of the lip, not at all upon the internal. The type of the eczema is squamous and fissured, the latter not as marked as the former. The lip is much enlarged, not indurated, but spongy and yielding. The treatment consisted in the use, for a few days, of a zinc oxide ointment containing 2 per cent. of powdered rhubarb. Under this, there was rapid improvement. I then suggested a lotion of resorcin ʒj to water ʒiij. Lint was to be soaked in the solution and kept constantly moist and applied to the affected part. This did more harm than good, and caused so much irritation that the lip was made raw and completely denuded of epithelium. I then recommended ichthyol in 10 per cent. solution in water, to be painted on several times daily. The raw surface healed kindly in a week. I now use zinc-ichthyol jelly and keep the affected portion of the lip continually enveloped in it, and have the satisfaction of seeing that the infiltration is slowly disappearing.

Eczema of the lower lip, when chronic, is, next to eczema of the nails, the most rebellious form of the disease. It is said that it generally accompanies seborrhoic eczema of the scalp and face, and is of apiece with the disease in these localities. My case is not at all seborrhoic, and indeed, if I am entitled to a voice in the matter from an observation of only two cases, it is my opinion that the majority of cases are not seborrhoic, else they would not be so stubborn, but would readily yield, as is the case with seborrhoic eczemas, elsewhere, to antiparasitic treatment. Besaier describes a

variety of eczema of the lower lip seen in nervous women, which he declares is permanent and incurable.

The cases are rather rare, and fortunately so. It can be readily seen that eczema of the upper lip, owing to the presence there of beard in men, and its relation to the nostrils and the direct irritating influence of nasal discharges, is quite a different process, and may very well be seborrhoic.

Tar Vapor Bath in Treatment of Psoriasis.

From a recent experience, I can heartily recommend the tar vapor bath in the treatment of psoriasis. It is simple and easy of execution, cheap, and efficacious, and seems to fulfil thoroughly the indications. Four weeks ago, Lily F., a stout German girl, 20 years old, presented herself to me for treatment of a chronic skin disease. She had been suffering from it for three years. I found a generalized psoriasis, the patches varying in size from that of a ten-cent piece to three or four inches in diameter. The lesions generally were discrete, but on the buttocks, extensor surfaces of the upper and lower extremities they were confluent. The general outline was circular; there were no chains or gyrate figures. The whole vulva and the adjacent surfaces of the thighs were involved in one large scale area. There were small spots on the scalp, covered with white shining, papery scales. I put the girl immediately on Fowler's solution gtt. iij, to be gradually increased, for internal treatment, and for local, I ordered her to take daily a vapor-bath of tar. This was done under my supervision, and was carried out as follows: A bath cabinet, of which there are a number on the market, and any will do, was procured; the patient sat on a stool within it, and under the stool was placed an alcohol lamp, with one ounce of pix liquida and four ounces of water in the small tin boiler with which the lamp was provided. Enough alcohol (one ounce) was put in the lamp to last fifteen minutes. The lamp being lit, the rubber flaps were tucked under the patient's throat and only the head allowed to protrude from the opening at the top of the cabinet, and the whole body was subjected

for a quarter of an hour to the influence of the vapor. After coming out, the whole body was wiped dry of moisture and a little alcohol in the form of spirit of lavender rubbed in with the hands.

The skin, very dry and harsh at first, now perspires readily, and is much softer and more pliant, and the disease is vastly benefitted. Some of the patches have disappeared entirely, and the large ones are looking much better. Of course, this method of treatment need find place only when the disease is so generalized as to put it beyond the rational employment of very stimulating applications in the form of ointments and pastes; and is not necessary in cases in which the patches are few and of small extent. I have seen one death from the use of pyrogallol in disseminated psoriasis, and much pain and misery caused by the injudicious use of chrysarobin.

Present Treatment of Urethritis in New York.

Under this brocard, Dr. Ramon Guiteras gives a comprehensive summary of the methods of treatment at present employed in public and private practice in New York. The practical nature of the paper, which was read before the New York Academy of Medicine, warrants me in giving it somewhat *in extenso.*

The craze for examining the discharge for the gonococcus seems to have abated, and the conclusion has been arrived at that in every acute running case, and by far the majority of subacute cases and gleets, this germ is present. Such cases are therefore to be considered as urethritis, and not by the names of specific or non-specific gonorrhœa. Dr. Guiteras thus outlines the treatment: *The acute cases* he treats by diluents and anterior astringent injections.

The diluent employed is made by Fraser & Co., and consists of five grains each of bicarbonate and citrate of potash, with sufficient citric acid to cause effervescence.

The astringent injection contains five grains each of zinc sulphate, alum, and carbolic acid, and one drachm of glycerine to the ounce of distilled water. This is used three times

a day after urinating, and washing the anterior urethra with warm water. The injections are omitted in those rare cases in which there is great inflammation about the glans and prepuce, with perhaps glandular enlargement. In such cases the diluent, with hot sitz baths, a purge followed by Rochelle salts every morning, with plenty of water, are recommended. The diet should be regulated and a suspensory bandage carefully worn. To catch the discharge, a butterfly bandage should be used.

If the above injection be without effect, a stronger is ordered, composed of zinc sulphate gr. x, colorless extract of hydrastis (Lloyd's) ℥ss, to water ℥iv. If this fails, a still stronger injection is used composed of zinc sulphate gr. x, acetate of lead gr. xv., tinct. catechu and opium āā ʒj, to water ℥iv.

This course of injections with the diluent will generally suffice to cure an ordinary anterior urethritis.

In case of the occurrence of *posterior urethritis*, the injection is discontinued, but the diluent kept up, with the addition of gtt. x of tinct. belladonna to check tenesmus.

If the process is very acute, the patient is to be put to bed and given two hot sitz baths daily, and put on a diet of milk and Vichy water.

If the ten-minim dose of tincture of belladonna fails to relieve the tenesmus, a suppository is substituted, composed of gr. ¼ ext. belladonna and morphine. The bowels are kept open. When the symptoms abate, instillations of silver nitrate gr. j to water ʒj, are given every other day in the beginning. In addition, gtt. x of oil of sandal wood are ordered, to be increased gtt. v each day. If this does not work well, cubebs, copaiba, or the Lafayette mixture are substituted.

If the discharge persists in a *subacute form*, the author substitutes daily irrigations of 1:3000 potassium permanganate solution from a fountain syringe, elevated two feet, through a velvet-eyed catheter passed into the bulbous portion of the urethra. If there is a subacute posterior urethritis associated with it, the fluid is allowed to run back

into the bladder either by increasing the elevation of the syringe to five feet and compressing the meatus, or by slipping the end of the catheter beyond the cut-off muscle. Where this fails, he substitutes a weak solution of silver nitrate, beginning with 1:8000 and increasing to 1:1000 if necessary. If narrowing or stricture exists, it should be dilated with Oberleander's dilator or an Otis urethratome. If the gleety discharge continues, an endoscopic examination should be made and the silver nitrate application made through it.

The conclusions drawn by the author are:

1. That it is impossible to treat urethritis by any given rule at the present day. A successful method has not yet been discovered.

2. That specialists are better able to treat it successfully than general practitioners.

3. That injections stopping all discharge or reducing it to a moisture about the meatus, such as bichloride, potassium permanganate, and nitrate of silver, are the most successful means of treating a fresh attack, and that of these, the silver nitrate is the one upon which the most reliance can be placed.

4. That in all cases, the patient should be treated conservatively, and the treatment should be modified according to the symptoms.

Peripheral Facial Paralysis in Secondary Syphilis.

A case of peripheral facial paralysis in the secondary stage of syphilis, is reported by A. Boix (*Arch. Gèn. de Méd.*, S. 152). Simultaneously with the facial paralysis, there was a herpes zoster occipito-cervicalis. A cure was accomplished in six weeks. As the cause of the affection, Boix considered a compression of the facialis by meningitis sclerogummosa, from osteitis or periosteitis of the aqueduct of Fallopius. Syphilitic neuritis was excluded. The appearance of the paralysis in the secondary stage presaged an early occurrence of tertiary symptoms, and indicated a high degree of intoxication.

Department of Electro-Therapeutics.

Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va.

The Improved Faradic Apparatus of Engelmann.

The new faradic apparatus recently devised and perfected by Dr. Engelmann, of St. Louis, and now manufactured and sold by Waite & Bartlett, of New York city, is a vast improvement on the faradic batteries in general use. It differs, says Dr. Engelmann (Faradism As it Was and As it Is, *Trans. Amer. Electro-Ther. Asso.*, 1893), in range, efficiency and effect, in precision and controllability, and I trust that this apparatus may be for the faradic current what the milliampermeter has been for the galvanic—the basis of progress and development.

The following are the characteristic features of the apparatus that give to the current its controllability and extended range:

1. The use of two motive powers, the one to furnish an independent force for the propulsion of the interruptor, the other to furnish the current for the induction coil. This arrangement, it is claimed by the author, gives perfect regularity of interruption and smoothness of current, and admits of the regulation and control of each independent of the other. By this separation of coil and interruptor currents, the most delicate or the most powerful inducing current can be utilized with any desired rate of interruption, whether one or one hundred thousand per minute. Rate of vibration, thinks the author, is one of the most important factors in determining the therapeutic effect of the induction current. Regularity of vibration or interruption is essential to a serviceable therapeutic current, and to obtain this we must not only have an interruptor acting with far greater regularity than the old-time vibrator as ordinarily constructed, but in addition the vibrator must be controlled by a separate force entirely distinct from the coil current. This is essential to satisfactory work, to a simple and reliable controlling of the two most important factors of therapeutic current. These separate motive powers should be a

storage or Edison-Lalande battery for the interruptor, and four, or at most six, muriate of ammonia cells for the coil.

2. The interruptor, which is characterized by rapidity and controllability: *a*, it admits of greater rapidity of interruptions than hitherto known—thus extending the physiological and therapeutic efficiency of the current; and *b*, the control of these interruptions is perfect, making record and comparison possible.

Tesla has demonstrated the marvelous mechanical results of rapid vibration, and D'Arsonval has proven the surprising insensibility of the system to currents of extremely rapid alternation. The remarkable results of vibratory action have been sufficiently demonstrated of late, and the varying effects of such vibrations of various mediums upon different nerves are the subject of physiologic and therapeutic experiment. The increased rapidity of interruption and the ability to control in this instrument gives a wide scope to the efficiency of its current, increasing its sedative power, and rendering the application of effective currents possible to the most sensitive tissues; certain results, especially decided vaso-motor effects, being produced by rapidly interrupted currents which are no longer perceptible to the sensory nerves. The physiological effects of the slower rates of vibration, the highest obtainable by the spring vibrator, are best demonstrated by the use of mild currents, but as such currents would cease to impress the sensory nerves and would no longer be recognized by them if interrupted with greater rapidity, stronger currents must be used to test interruptions of greater rapidity.

High rates of interruption, together with perfect control, are obtained with the new interruptor. The interruptions are obtained from a commutator upon the axle of a small motor per minute. We can thus obtain interruptions of known rapidity and perfect regularity. The apparatus in its present form has a limit of 50,000 to the minute, which is ample for all therapeutic purposes. This is a great change from the ordinary apparatus with the vibrator, which averages from 3,000 to 4,000 per minute. Through

the mechanism of this apparatus interruptions can be obtained varying in rapidity from 100 to 50,000 per minute, and the rate can always be determined.

A current too strong for therapeutic application with the ordinary vibrator at 3,000 per minute is barely perceptible with 25,000 interruptions per minute, and ceased to be felt altogether at 28,000. The therapeutic value of rapid interruption rests upon our ability to employ strong, efficient currents without discomfort, and is found in the nerve-quieting, sedative effects of these interruptions with fine wire secondary coils.

3. *Coils.*—The series of secondary coils, varying in the number of the winds and the thickness of the wire used, each of known physical and therapeutic power, adapted to its special therapeutic purpose, for reduction and stimulation, for effects on nerve and muscle.

As physiologic effect depends upon resistance, diameter of wire, or current quantity and electro-motive force of the current, as determined by the number of winds of in the secondary coil, Dr. Engelmann has devised a series of coils of known quantity and electro-motive force, so that each coil may determine a certain physiologic effect. The therapeutic effect produced by these coils are motor, and sensory, sedative and stimulating. Motor, to the exclusion of sensory effects, the painless influencing of the muscle, are most satisfactorily obtained by secondary coils of lowest possible resistance with largest possible electro-motive force, within certain limits, and within certain limits the efficiency of the muscle-contracting current is increased by increased ampèrage, without any pain or sensory effect. Nerve effects, on the contrary, are most effectually produced by coils of higher electro-motive force, increase voltage with diminished ampèrage; counter-irritation, stimulation, and painful effect upon the nerve by the greatest possible electro-motive force in short coils; the sedative nerve-quieting effect by long coils of great electro-motive force, high voltage and low ampèrage.

The coils used in connection with this apparatus are:

A.—*For motor effects.*

1. Coil 1 of the old series, heavy wire coil, 0.8 ohms resistance, 528 winds, as high voltage as is well possible, is a simple coil with considerable ampèrage.

2. Multiple coil of 32 wire, 6,500 winds, 4.1 ohms resistance, which gives even more efficient and entirely painless muscle contraction, by reason of the comparatively great ampèrage with high voltage.

B.—*For stimulation and counter-irritation.*

3. Coil 2 of the old series, 13 ohms resistance, 1,751 winds, with penetrating and rather irritating effect, the current being a more painful one as ampèrage lessens and voltage is still moderate, comparatively low.

4. Short fine coil, 40 wire, 180 ohms resistance, 528 winds, giving an extremely painful current without motor effects of any kind. Comparing this with Coil 1, same voltage, 528 winds, we see that high ampèrage, 0.8 ohms resistance gives effective and painless muscle contraction, while low ampèrage, 180 ohms resistance causes great pain and no contraction comparatively.

C.—*General nerve and muscle effects.*

5. A coil of 32 wire, 7,500 ohms resistance, 4,500 feet tapped at 3,000, 500 ohms, 1,500 feet, 250 ohms.

D.—*Sedative effects.*

6. Coil of 6,000 feet, 12,890 winds, 2,484 ohms resistance, tapped at 4,000 feet, 9,685 winds, 1,656 ohms, 2,000 feet, 5,670 winds, 828 ohms. This coil gives the most satisfactory sedative effects, acting on the sensory nerves to the exclusion of muscle, as far as this is possible, the first or 5,670 winds section, with more ampèrage, being still serviceable for muscle effects; the full coil of 12,890 winds represent the extremes, which can be used to advantage even for sedative purposes, 10,000 or 11,000 winds being almost sufficient.

These coils represent definite physiologic and therapeutic effects as far as it is possible for one factor to do; to develop the utmost possible current effect a combination of the various determining factors is necessary. The full effect of the

motor coil is obtained by slow current interruption and a moist electrode which reduces resistance to a minimum, giving the greatest possible current quantity; it thus gives an efficient muscle current without the greatest increase of ampèrage possible; with the given voltage, yields the most efficient and painless muscle current effect upon the sensory nerves.

The irritating effect of the short, fine Coil 4, is developed to its fullest extent by an increase of resistance, or diminution of ampèrage, by the use of the dry metallic electrode and interruptions of moderate rapidity, whilst the sedative effect of Coil 6, with the highest possible electro-motive force, is developed by rapidity of interruption and increase of penetration by the moist electrode. Only by a combination of the essential factors can the most perfect results be obtained, and the physiologic effect may be varied by a variation in any one of these factors.

A further variation of the current is obtained by the rheostat, which controls the current, varying its intensity without changing the relation of the primary and secondary coil; another rheostat controls the interruptor current, and thus the rapidity of interruption or alternation.

The essential features of the new apparatus, then, are:

1. Separation of motive powers, an independent coil and interruptor current.

2. The precision and variation of secondary coils and current.

3. The rapidity, regularity and controllability of interruption.

The interruptor which was devised in connection with this apparatus will serve other therapeutic purposes; being acted upon by its own individual motive powers, it may be used as a separate instrument for the purpose of interrupting or alternating the primary faradic or the galvanic current; and it may likewise be used for the purpose of producing atmospheric vibrations, by means of the telephone receiver or other vibrator, vibrations which will prove useful for various therapeutic purposes. One of the results of such independent use of the interruptor has been the mus-

cle-contracting current which is obtained, the combination of the galvanic and faradic apparatus, the mixed or high voltage primary current, which acts powerfully on fiber, and may be used to contract the muscle in cases where the faradic proper has failed. While the striking physiologic effects produced by the new currents warranted the expectation of valuable therapeutic results, the author has been more than gratified by what has been accomplished by muscular contraction or interstitial massage in the painless stimulation of relaxed pelvic tissues by the muscle coil, the counter-irritation produced by the short fine wire coil; and above all, the sedative effects of the long fine coil even with interruptions of moderate rapidity. The instantaneous relief obtained from the application of such currents in acute inflammatory pain has been surprising, and warrants the highest expectations.

Obstruction of the Bowel Tested by Electricity.

Althaus (*British Medical Journal*, No. 1778, p. 188) reports a case of a man fifty-four years old, who for three months had suffered with obstinate constipation. At the time of coming under observation the bowels had not moved for ten days, and the abdomen was distended and tender. The appetite was lost, and a condition of collapse existed, with sunken face and small, feeble pulse. The introduction of the long tube proved unavailing, and electric treatment was resorted to. An insulated sound, with a fine metallic end, was introduced into the rectum, and a moistened conductor applied to the abdominal parietes, chiefly in the region of the sigmoid flexure. Through this circuit a primary faradic current was passed, and its force gradually increased until the patient experienced a decided feeling of vibration in the bowel. In the course of the day a copious intestinal evacuation ensued, with wonderful relief to all the symptoms. During the next two days the bowels acted ten times, and in the course of a week the patient appeared quite well.

A second case, in a woman fifty-seven years old, is cited, in which a like result was obtained from similar treatment. (*The Medical News*, February 16, 1895).

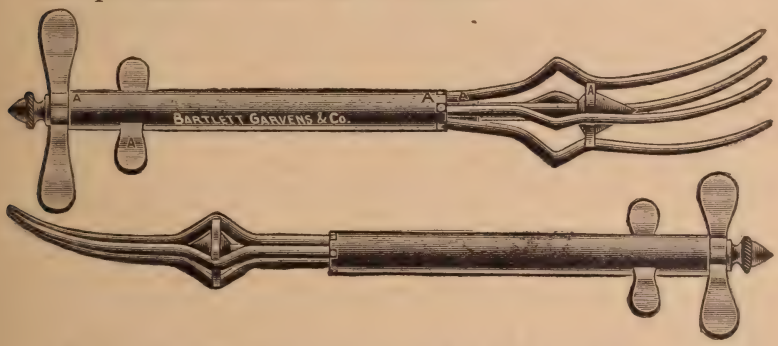
Analyses, Selections, etc.

A New Cervical Dilator.

Dr. John N. Upshur, Richmond, Va., Professor of the Practice of Medicine in the Medical College of Virginia; Honorary Fellow of the State Medical Society of West Virginia, etc., read a description and showed the instrument which he had originated to the Richmond Academy of Medicine and Surgery. His paper appears in the *American Gynæcological and Obstetrical Journal.*

The universal experience of gynæcologists in the treatment of stenosis of the cervix uteri for the relief of dysmenorrhœa, for the opening up of the uterine cavity for curettage or other treatment of the endometrium, is its temporary benefit, because of subsequent relapse, often in a short time, unless the patient be a married woman and the operation be followed by early conception, the *cure* coming with the *uniform dilatation* as a necessary factor of the delivery.

This having been frequently my own experience, I have devised the instrument illustrated in the subjoined woodcut, and which I now offer to the profession, believing that by its uniform stretching of the cervical fibers *better* and *more permanent results will be obtained.*



In construction the instrument is fully up to the requirements of modern asepsis, the removal of a iingle screw in the handle separating all its parts; it is much lighter than Goodell's dilator; it does not obscure the view through the speculum (a bivalve may be used) as other dilators do. The force is applied by a screw turned by a handle in the end, similar to an écraseur, forcing forward a pyramid body which renders the blade *sufficiently* rigid and diminishes by

the more uniform application of the force the risk of laceration. When closed the blades are smooth, with convenient curve, about the size of a No. 9 American sound at tip, No. 14 in the center, and No. 20 at the heel. It measures just eleven inches and weighs less than half a pound. The intra-uterine portion measures two inches. If desired it may be used as a two-bladed instrument in the beginning of the operation. *Twenty-two* turns of the handle opens the blades to the full extent; therefore, by counting the turns made the approximate amount of dilatation may be computed. When fully dilated the blades are about one inch apart in all directions, and two-and-three-quarters in circumference. *These dimensions are absolute*, whereas in using the two-bladed dilator *the amount of dilatation is relative.* Two blades dilate in the form of an ellipse, thus ⬭, the stretching being chiefly of anterior and posterior fibers, the *lateral scarcely at all*, and this explains the tendency, *almost inevitable, to subsequent relapse.* Four blades, on the other hand, as in the instrument offered, *dilate equally in all directions* thus ◇, *equally stretching all fibers of the cervix, and diminishing*, if not entirely removing, *the tendency to relapse.*

The divulsion may be made under ether at one sitting, or it may be done gradually in the office. Practical trial of the instrument in the office demonstrates its use to be less painful and easier of application than the dilator of two blades.

This instrument has been made for me by Messrs. Bartlett & Garvens, instrument makers of this city, and I am indebted to them for the beautiful finish and nicer mechanical adaptation of the principles originated by me.

Examination of the Pupil in the Diagnosis of Intracranial and Spinal Affections.

In the paper read before the North Texas Medical Association, December 12th, 1894, by John O. McReynolds, B. S., M. D., of Dallas, Texas, the author explained the various conditions of the pupil in intracranial and spinal affections by a consideration of the physiological relations of the iris. He discussed—

1st. Functional intracranial affections.

2d. Diffuse inflammatory intracranial affections.

3d. Focal lesions of the brain.

4th. Spinal diseases.

He emphasized the importance of differentiating between

what Highlings Jackson calls "discharging" and "destroying" affections of nerves and nerve centers. He discussed the pupillary action in the various conditions affecting the optic nerve fibers, the motor oculi communis and its origin, and the several intracranial ganglia. He showed how the state of the iris would be modified by lesions involving the cilio-spinal centers in the cord and their sympathetic connections with the radiating fibres of the iris. And he pointed out that while the pupil might vary wide limits in a given disease, this variation would give us valuable information with regard to the pathological condition present, and would frequently lend material aid in the prognosis and treatment.

Epeston Mineral Water.

We return thanks to Dr. Wm. J. Harris, of Blackstone, Va., for a case of this Natural Spring Water, holding in solution many of the standard alkaline salts, tonics, and alteratives. It is a pure, light, refreshing and pleasant table water. A glass or two before meals increase the appetite and prevents indigestion. A teaspoonful of tablesalt may be added to a glass of water, if necessary, to remove constipation. The analytical and consulting chemist, Dr. Henry Froehling, who has used it, speaks well of it, and this ought to recommend it to practitioners for prescription in cases of weak and delicate patients where mild mineral waters are indicated. For further information as to uses, prices, etc., address the proprietor, Dr. Wm. J. Harris, Blackstone, Va., than whom there is no more able practitioner in his section.

Cold in the Treatment of Pneumonia.

To the Members of the Medical Profession: My last paper on *Ice-Cold Applications in Acute Pneumonia* gives a record of seventy-four cases so treated, and only two deaths. Being desirous of making a full collective report on this subject, I take the liberty of asking those who have tested this measure to kindly give me the result of their experience with it. Full credit will be given to each correspondent in the report which I hope to publish. Thomas J. Mays, M. D., No. 1829 Spruce street, Philadelphia, Pa.

Book Notices.

Treatment of Wounds, Ulcers, and Abscesses. By W. WATSON CHEYNE, M. B. Ed., F. R. S., F. R. C. S., Professor of Surgery in King's College Hospital, and Paddington Green Children's Hospital, London. Philadelphia: Lea Brothers & Co. 1895. Cloth. Small 8 vo. Pp. xii–197. Price, $1.25.

This book will do good. The author bluntly states "that suppuration occurring in a wound made through unbroken skin indicates that the surgeon has committed some avoidable error in his methods, unless, indeed, the wound is in the immediate neighborhood of, or communicates with some mucous canal; it will not do * * * to attribute such an occurrence to constitutional defects, to bad material," etc. The author does not agree with Mr. Lockwood in the statement that ordinary methods of disinfection of the skin are quite inefficient. While Mr. Cheyne is a strong advocate of antisepsis and asepsis, he thinks it unnecessary to go so fully into details as some surgeons adopt. The work goes over so many details that it is impossible even to name the principal items in the space of a book notice. The young surgeon would do well to get this book and follow out the teachings in full when called to treat wounds, ulcers or abscesses in any part of the body.

Cod-Liver Oil and Chemistry. By F. PECKEL MOLLER, Ph. D., etc. London: Peter Möller. 1895. Small 4to. Pp. 508. Cloth. (From W. H. Schieffelm & Co., New York).

The chemistry part of this work relates to the organic world. In his efforts to simplify chemical formulæ, the author introduces a new system of diagrammatic illustrations. The author states that some of his formulæ (atomic linking) are scientifically incorrect. It is unfortunate, then, that he published them, especially at this very transition moment, when not a word should be printed for the novice that perpetuates an error. As the part of the book relating to cod-liver oil, every page is interesting. The volume opens with a chapter on "Norway—the land of the Midnight Sun and Cod-Liver Oil"; there are chapters on the "Norwegian Fisheries"; "Cod-Liver Oil"; "Peter Möller's New Process"; "Pharmaceutical Annotations"; "Chronological Synopsis of Chemical Researches on Cod-Liver Oil"; "New Chemical Researches on Cod-Liver Oil"; "Concluding Remarks."

International Clinics: A Quarterly of Clinical Lectures on Medicine, Neurology, Surgery, Genito-Urinary Surgery, Gynæcology, Obstetrics, Opthalmology, Laryngology, Pharyngology, Rhinology, Otology, and Dermatology. By Professors and Lecturers in the Leading Medical Colleges of the United States, Germany, France, Great Britain, and Canada. Edited by JUDSON DOLAND, M. D., (University of Pennsylvania), Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in the University of Pennsylvania; J. MITCHELL BRUCE, M. D., F. R. C. P., London, England, Physician to and Lecturer on the Principles and Practice of Medicine in the Charing Cross Hospital; DAVID W. FINLAY, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Practice of Medicine in the University of Aberdeen. Vol. I. *Fifth Series.* 1895. Philadelphia: J. B. Lippincott Company. 1895. Cloth. Pp. xii–359. $2.75.

These international clinics fill a place that is not attempted by other publications; but one so valuable that practitioners cannot afford to do without the series. The best lectures of the best clinicians of this and foreign countries are here brought out with a care that is evident, but which makes the quarterly issues the more standard. Between forty-five and fifty authors are contributors to this volume—several of the lectures being taken up with more than one disease or condition. Thus the excellent clinic of Professor Daniel R. Brower, of Chicago, considers cerebral meningitis, concussion of the brain, sciatica, and two cases of chorea. The lectures are for most part stenographic reports, revised by the authors. The illustrations are very serviceable, and being reproduction of photographs, are accurate representations. The Lippincott Company, as usual, have done their part neatly and well.

International Medical Annual and Practitioner's Index. By THIRT-SEVEN AMERICAN AND FOREIGN EDITORS AND CONTRIBUTORS. 1895. *Thirteenth Year.* New York: E. B. Treat. 8 vo. Pp. 648. Price, $2.75.

Such a volume as this is essential in this day, when it is impracticable for any one practitioner to take all the journals. The selection of subjects is good, and the compiling work in each department is excellent. The character of the book is well told in the title. This 1895 edition places before the profession a concise, well-arranged, practical and helpful volume, giving the advance of medical science in all parts of the work during 1894. An excellent Index of 21 double-column pages is appended.

System of Surgery. By American Authors. Edited by FREDERIC S. DENNIS, M. D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, New York, etc.; Assisted by JOHN S. BILLINGS, M. D., LL. D., D. C. L., Deputy Surgeon-General U. S. A. *To be Completed in Four Imperial Octavo Volumes*, Containing about 900 Pages, *each with Index. Profusely Illustrated with Figures in Colors and Black.* VOLUME I., 870 Pages, 422 Engravings, and 2 Colored Plates. Philadelphia: Lea Brothers & Co. 1895. Price per Volume, $6.00 in Cloth; $7.00 in Leather; $8.50 in Half Morocco, Gilt Back and Top.

It is the claim of the publishers that this is the first *System of Surgery* written distinctively by American authors. To judge of the completed work by the excellence of the first volume, we would have to say that we do not know of as good a surgery in any tongue. In fact, this is what might have been expected; for Americans familiarized themselves with the teachings and practices of European schools, and thus, when they add this to their own experiences, etc., they have a richer mine from which to draw and impart information. In a work of such exhaustive scope, claiming to have forty-six American contributors, we naturally wish a larger percentage of representation had been from the South and far West, where there are great men in surgery whose works and writings thus seem ignored.

Volume I. is, however, a work of great value—well prepared in every respect. It opens with the "History and Literature of Surgery," about 130 pages; then follows chapters in regular order as follows: "Surgical Pathology, including Inflammation and the Repair of Wounds," over 100 pages; "General Bacteriology of Surgical Infections," about 85 pages; "Symptoms, Diagnosis and Treatment of Inflammation, Abscess, Ulcer and Gangrene," about 50 pages; "Septicæmia, Pyæmia and Poisoned Wounds," about 30 pages; "Traumatic Fever, Erysipelas and Tetanus," 18 pages; "Rabies, Hydrophobia, Lyssa," 12 pages; "Gunshot Wounds," 70 pages; "Fracture and Dislocation," 120 pages; "Anæsthesia," 32 pages; "Technique of Antiseptic and Aseptic Surgery," 52 pages; "Operative Surgery," 135 pages. Sixteen pages of Index are added. The practitioner in town or country cannot anywhere find a work more exactly suited to his wants. A full descriptive circular will be sent free to any address on application to the publishers.

Twentieth Century Practice. *An International Encyclopædia of Modern Medical Science.* By Leading Authorities of Europe and America. Edited by THOMAS L. STEDMAN, M. D., New York City. In Twenty Volumes. Volume II. *Nutritive Disorders.* New York: Wm. Wood & Co. 1895. 8vo. Pp. iv-739. For sale by subscription. Cloth. $5 a volume.

In our March issue, we noticed the first volume of this great library of medicine, which volume has 737 pages instead of 117 as misprinted. Volume II is in every respect as worthy of favor. The subjects considered are *Addison's Disease and other Diseases of the Adrenal Bodies*, by Sir Dyce Duckworth, M. D., LL. D., F. R. C. P., London; *Diabetes Mellitus*, by Carl H. von Norden, M. D., Frankfort-on-the-Main; *Rheumatism*, by Thomas J. Maclagan, M. D., M. R. C. P., London; *Gout*, by Henry M. Lyman, M. D., Chicago; *Arthritis Deformans*, by Archibald E. Garrod, M. D., F. R. C. P., London; *Diseases of the Muscles*, by G. S. Dujardin-Beaumetz, M. D., Paris; and *Obesity*, by Max J. Oertel, M. D., Munich. Thus it will be seen that only one of the seven contributors to this volume is an American, but none better than Dr. Lyman could have been selected. No one who reads this volume can fail to be impressed with the study each author has given to his subject. The article on Addison's Disease is perhaps wanting in the clearness of systematic description that characterizes the other articles, and thus does not afford the help in diagnosis that the practitioner might expect; yet it should not be forgotten that but little is known of the functions of the adrenals. The chapters on Diabetes Mellitus, Rhematism, and Gout, are especially excellent in arrangement and description. Dr. Maclagan believes the rheumatic poison to be malarial in nature, and most plausibly traces up the consequent value of the salicyl compounds in treatment. The remaining three chapters well represent the advanced doctrines of the day. The Index to this Volume is very full. The typography and general "get up" of the work is in keeping with the best publications of the publishers. We earnestly urge our readers who can do so to subscribe at once for the "Twentieth Century Practice," for they will find it much easier to pay $5 a volume, as issued once in three months, than $100 at one time, when the Series is completed two or three years hence. The Series is for sale only by subscription.

Manual of the Modern Theory and Technique of Surgical Asepsis. By CARL BECK, M. D., Visiting Surgeon to St. Mark's Hospital and to the German Poliklinik of New York city, etc. *With 65 Illustrations in the Text and 12 Full-Page Plates.* Philadelphia: W. B. Saunders. 1895. Cloth. Small 8 vo. Pp. 306. $1.25 net. (From Publisher).

The principle of asepsis has become well established as the essential element of success of the surgeon. It is now simply a study of the means to secure it that engages attention. Cheyne, along with many surgeons, assert that dipping the knife in carbolic acid, after being used in an operation, will disinfect it so as to make it safe for further use. Dr. Beck does not seem to have considered this, but writes: "If an abscess has been incised, it cannot be expected that the knife, after having remained *in a solution* of carbolic acid * * *, becomes so well disinfected that it may safely be used for a subsequent plastic operation," etc. He prefers boiling water. Dr. Beck writes as if antisepsis is dead; and yet even in his Preface he refers to a category of conditions in which "antisepsis asserts its prerogatives;" and again he commendably asserts that "iodoform is the ideal antiseptic drug." He mentions others favorably also, as pyrozone, bichloride of mercury, etc. If antisepsis is dead, why keep antiseptics ever before the practitioner's eye? We are not criticizing the methods Dr. Beck chooses to adopt—they are good; but the incautious sentences in different parts of his book may mislead.

Urinalysis, Including Blanks for Recording the Analysis and Microscopic Examination of the Urine. Arranged by JOSEPH C. GUERNSEY, A. M., M. D. Philadelphia: J. B. Lippincott Co. 1895. Cloth. Large 8vo.

This is the best arranged record for urinalyses that we have seen. It contains blanks for five hundred examinations and a full set of thumb-index pages, so as to refer to cases examined. All the chemical tests referred to in the blanks are briefly described within the first twenty pages of text. The excellence of the book is that it is as valuable to the general practitioner as it is to the specialist in urinalysis. The value of the records thus kept to the practitioner is evident, both as to his own information of conditions that express themselves through changes in the urine, and as to the improvement or non-improvement of the disease in the patient. The simplicity of the manner in keeping the records is another commendation.

Medical Gynæcology. *A Treatise on the Diseases of Women from the Standpoint of the Physician.* By ALEXANDER J. C. SKENE, M. D., Professor of Gynæcology in Long Island Hospital, Brooklyn, N. Y., etc. *With Illustrations.* New York: D. Appleton & Co. 1895. Cloth. 8 vo. Pp. 529.

This is not a text-book, but better than a text-book, to the practitioner. It is the record of a ripe experience, and gives many facts, and calls attention to many conditions that the mere text-books of the day cannot reach. In short, it is a book that ought to be read by the practitioner, and then there will be the need of many references to its pages to refresh memory. Hence the value of the full and well-arranged index. Dr. Skene makes his work much the more valuable by recording cases without varnish—cases that are recorded as they really are, and that remind us of cases that have come under our experience. Dr. Skene draws well the lines of medicine and surgery. He uses both as needed. We wish doctors who have had enough experience to learn that this and that are not specific cures would read this book as they would other profitable volumes; and they would become wise, and be able to practice better.

Book of Detachable Diet Lists for Albuminuria. Anæmia and Debility, Constipation, Diabetes, Diarrhœa, Dyspepsia, Fevers, Gout or Uric Acid Diathesis, Obesity. Tuberculosis, and a Sick-Room Dietary. Compiled by JEROME B. THOMAS, A. B., M. D, Visiting Physician to the Home for Friendless Women and Children and to the News Boys' Home; Assistant Visiting Physician to the Kings County Hospital; Assistant Bacteriologist Brooklyn Health Department, etc. Philadelphia: W. B. Saunders. 1895. Cloth. Long 8vo. $1 50.

This is a most serviceable book to practitioners. The appropriate diet for each of the ten conditions above named is printed on perforated sheets which can be handed the patient's nurse; and it gives in detail what the doctor cannot write out in hours. In addition, the sick-room dietary—32 copies of which are printed on perforated paper—describes the preparation of many articles named in the List. On the stub, the doctor can make his memoranda. The book is worth every cent of the charge of $1.50, for it will save the practitioner many hours of research and much wild guessing as to what the patient should be told to eat. The tables are finely printed on fine paper, and the type is clear.

Diseases of the Ear. A Text-Book for Practitioners and Students of Medicine. By EDWARD BRADFORD DENCH, Ph. B., M. D.; Professor of Diseases of the Ear in the Bellevue Hospital Medical College; Aural Surgeon New York Eye and Ear Infirmary; Fellow of the American Otological Society, etc., etc. *With Eight Colored Plates and 150 Illustrations in the Text.* New York: D. Appleton & Co. 1894. 8vo. Pp. 645. Cloth, $5; Leather, $6.

Dr. Dench has added another to the already large number of excellent text-books, which within the past few years have been written by American authors. In every text-book of special medicine there is, of necessity, a large amount of what may be called dried and salted information, such as the facts of anatomy, of physiology, and the well observed courses of the various diseases. These facts have been carefully and pleasingly set forth by the author. The type and general make-up of this work are good. The illustrations are excellent, most of them being new. In turning to a text-book by Dr. Dench, we naturally expect to find much stress laid upon the methods of functional examination and the value of intra-tympanic operative procedures—subjects to which he has given much attention. Indeed, in reading the preface to this text-book, we find that Dr. Dench calls especial attention to these two subjects. The importance of a careful functional examination cannot be overestimated; and while there are many difficulties in properly appreciating the results of our tests, it is in this way alone we are enabled, in the majority of cases of chronic impairment of hearing, to form any reasonable estimate of the possible benefit to be derived from treatment. It is a pleasing thing, then, to find a text-book on the ear insisting that we should locate by every means in our power the seat, and discover the cause of impairment of hearing before we affirm or deny the possibility of improvement as the result of treatment. Since Dr. Dench has devoted so much of his time to diagnosis in cases of middle and inner ear deafness, his views as to the results to be obtained from operative procedures upon the middle ear deserve respectful consideration. Anything like a fair criticism of Dr. Dench's methods and results would take us beyond the limits designed to this notice of his work. Here we can only say that these views and results are well worthy of our careful attention. To a person who has read Macema's *Otitic Brain Disease*, Dr. Dench's chapters on this subject leave something to be wished for; but we must remember that the limits pre-

scribed for a text-book on a special subject exclude much valuable information. In regard to the operations for opening the mastoid antrum, examination of the sinus, operation for otitic brain abscess, we may here say that few surgeons seem as yet to have appreciated the value of the portable dentists' drill, the skillful use of which removes many of the dangers of the chisel and gauge. In conclusion, we can heartly recommend Dr. Dench's work to the profession.

D.

Year-Book of Treatment for 1895. A Critical Review for Practitioners of Medicine and Surgery. By TWENTY-THREE ENGLISH AUTHORS. Philadelphia: Lea Brothers & Co. 1895. Cloth. 8vo, Pp viii—490.

This Clinical Review of Medicine and Surgery, as taught in books and journals during 1894, is very valuable to every practitioner—it represents the advances of practice during the year. We are told that unforeseen circumstances prevented the appearance of the chapter on Bacteriology; but enough is given in all the other departments to keep the doctor who reads them well up in his knowledge The book is well indexed, neatly published, and is uniform in size with the preceding ten annual volumes. Now that we have become accustomed to refer to it, we do not understand how practitioners of long ago did without such a work.

Transactions of the Antiseptic Club. Reported by ALBERT ABRAMS, a Member of the San Francisco Medical Profession. *Illustrated.* New York: E. B. Treat. 1895. Cloth. 8vo. Pp. 206. $1.75,

On the principle, "A place for everything and everything has its place," this is a timely and interesting volume—"laden with sterilized wit and humor." It is a "take-off" on many of the practices of the day, which each reader can easily apply to some other practitioner than himself. It is a book for the physician to keep on his waiting-office table, so that office patients may get an insight into the humbuggeries of other doctors none of which are to be found in the practice of the doctor in whose office the book is found. Not a line in the volume seems to be "extra dry."

Editorial.

The University College of Medicine; Richmond, Va.

Held its Second Annual Commencement exercises at the Academy of Music, on Thursday night, April 11, 1895.

After prayer, the President, Dr. Hunter McGuire, after a few remarks upon the success of the College, which had over two hundred students during its second year, delivered diplomas to the following graduates:

Doctor of Medicine.—J. C. Baldwin, Union Springs, Ala.; C. P. Capps, Greensboro', N. C.; M. B. Crockett, Burk's Garden, Va.; B. S. Dobyns, ———, ——; H. C. Hamlin, Winston, N. C.; E. L. Hobson, Jr., Richmond, Va.; C. P. Jones, Loch Leven, Va.; A. S. Kemper, Port Republic, Va.; B. B. McCutcheon, Moffatt's Creek, Va.; Wm. H. Parker, Richmond, Va.; G. P. Reid, Old Fort, N. C.; A. Grayson Vaden, Manchester, Va.

Doctor of Dental Surgery.—Uriah Harmon, Floyd, Va.; J. E. Keen, Sago, Va.; J. P. Stiff, Oak Grove, Va.

Graduate in Pharmacy.—G. E. Baskerville, Richmond, Va.; J. L. Crockett, Graham, Va.; C. R. Link, Richmond, Va.; R. W. Miller, Honey Grove, Pa.; S. W. Williams, Winslow, N. C.

The following appointments were announced:

Virginia Hospital.—Dr. A. G. Vaden and Dr. P. G. Alston.

St. Luke's Home.—Dr. E. L. Hobson and Dr. Robert C. Randolph.

City Almshouse.—Dr. William H. Parker.

Richmond Eye, Ear and Throat Infirmary.—Dr. J. C. Baldwin.

Prizes were awarded to the following:

Medal of the Medical Department, to Dr. William H. Parker.

Medal of the Dental Department, to Dr. Uriah Harman.

Medal of the Pharmacy Department, to G. E. Barksdale, Ph. G.

Bartlett, Garvens & Co.'s Prize, to Dr. Wm. H. Parker.

Valentine Meat Juice Co.'s Materia Medica Prize, to Mr. P. St. George Bridges.

Powers-Taylor Drug Co.'s Essay on Hæmorrhoids Prize, to Dr. Wm. H. Parker.

Anatomy Prize, to Mr. Ernest M. Hardy.

Dr. Cowardin Prize, to Dr. Uriah Harmon.

Dr. Steele Prize, to Dr. Uriah Harmon.
Grant Prize, to Dr. J. P. Stiff.
Pharmacy Junior Prize, to Mr. Max Eckert.
Purcell Prize, to Mr. W. W. Miller.
Virginia Pharmacal Co.'s Prize, to Mr. S. W. Williams.
Purcell, Ladd & Co.'s Prize, to Mr. J. L. Crockett.

The address of the evening was delivered by Rev. Dr. Robert P. Kerr on the "Dignity of the Human Body," and right ably did he show its great importance.

The Alumni Association of the University College of Medicine, Richmond, Va., held its Second Annual Meeting during the morning of the same day in the College building, Dr. Hugh McGuire, President of the Association, presiding. A very interesting and instructive paper on "*The Treatment of Lateral and Antero-Posterior Curvature of the Spine, with an Illustrative Case,*" was read by Dr. Stuart McGuire.

After having elected the recent graduates to membership, the following officers for the ensuing year were elected: President, Dr. Robert C. Randolph, Boyce, Va.; Vice-President, Dr. Benj. K. Hayes, Oxford, N. C.; Secretary and Treasurer, Dr. E. L. Hobson, Richmond, Va.

Immediately after the Commencement Exercises at night the Association tendered a banquet to the Faculty and graduates, which was enjoyed at Murphy's Hotel until a late hour of the night.

The Medical Examining Board of Virginia.

It is important for all who propose to enter upon the practice of medicine, etc., in Virginia to remember that the Medical Examining Board will hold its first semi-annual examination in the Capitol Building, Richmond, Va., beginning promptly at 9 A. M., Wednesday, May 8th, 1895. See advertising page 34. The Board will hold a meeting at 8 P. M. Tuesday, May 7th, 1895, for routine work. Under the present arrangement each examiner will be allowed several days in which to examine the papers, and his report is returned to the secretary, who tabulates results and informs the candidate, who leaves his P. O. address with the secretary.

The Florida State Railway Surgeons' Association

Was organized in Gainesville during the session of the Florida State Medical Association last month. It will be in association with the National Association of Railway Sur-

geons, which is to convene in Chicago May 1st. The membership of the State Association, it is stated, will be about 60. The constitution and by-laws were adopted, and the following officers elected: President, Dr. S. G. Warley, St. Augustine; First Vice-President, Dr. B. P. Izlar, Ocala; Second Vice-President, Dr. J. Harris Pierpont, Pensacola; Secretary and Treasurer, Dr. J. M. Jackson, Jr., Bronson; Executive Committee, Dr. Frank H. Caldwell, Sanford; Dr. Harry Stites, West Palm Beach; and Dr. G. E. Welch, Palatka.

The Florida State Medical Association in Gainesville,

April 17 and 18, would have been one of the best ever held had it not been saddened by the death of Dr. Wall. Papers on live subjects by men able to give information were presented, and the discussions were good. The social features were enjoyable—the ladies contributing their part to the entertainments. The next session is to be held April 7–9, 1896, in Sanford. The following officers for ensuing term were elected: Dr. C. B. Sweeting, Key West, President; Dr. J. F. McKinstry, Sr., Gainesville; Dr. W. R. Chalkley, Lake City, Vice-Presidents. Dr. J. D. Fernandez, Jacksonville, re-elected Secretary.

The Georgia Medical Association

Will hold its next Annual Session in Augusta about the middle of April, 1896. During the session in Savannah, just adjourned, the following officers were elected for the ensuing term: President, Dr. F. M. Ridley, of La Grange; Vice-Presidents, Drs. Wm. H. Doughty, of Augusta, and M. L. Boyd, of Savannah; Secretary, Dr. R. N. Taylor, of Griffin. To fill vacancies in Board of Censors, Drs. Charles Hicks, of Dublin; H. B. McMaster, of Waynesboro, and Howard Williams, of Macon.

Our readers will enjoy the papers read before the recent session, kindly contributed to this journal.

Messrs. Wm. R. Warner & Co. have Removed

Their New York Branch to the more commodious quarters, No. 52 Maiden Lane. This change became imperative to accommodate a largely increased business. There will constantly be on file a complete list of the leading medical and pharmaceutical journals of the United States, and a cordial invitation is extended to the profession to consult them at any time.

Resolutions of Northwestern University Woman's Medical School—Medical Examining Board Standard.

At a meeting of the Faculty of the Northwestern University Woman's Medical School, the following resolutions were unanimously adopted and ordered to be placed before the Illinois State Board of Health:

Whereas, On three occasions within the past three years, the Illinois State Board of Health has lincensed to practice medicine in this State, students who have not properly qualified themselves for such duties, and whose incompetence has compelled us to withhold the degree of Doctor of Medicine; and

Whereas, By common report, we are informed that the State Board has adopted a similar policy with reference to numerous other persons—therefore,

Resolved, By the Faculty of the Northwestern University Woman's Medical School that the State Board be requested hereafter to make its examinations so rigid that persons incompetent to obtain the Degree of Doctor of Medicine from first-class medical colleges, cannot obtain license to practice from the Illinois State Board of Health.

Resolved, That the State Board of Health be urged to do all in its power to secure a modification of the State law, so that the privilege of examination for license to practice in this State can only be obtained by graduates of recognized medical schools in good standing.

Resolved, That for the protection of the lives and health of our people, we believe it the duty of the State Board of Health to do all in its power to prevent the entrance into the medical profession in this State of any persons not properly qualified; and,

Resolved further, That in the interests of humanity and medical science, we believe the State Board should make its standard of qualifications as high as that of the best medical colleges in this country, and that it should do all in its power to aid and encourage the efforts of the profession and the people for thorough medical education and higher requirements of licentiates and for the degree of Doctor of Medicine.

Obituary Record.

Dr. John P. Wall, of Tampa, Fla.,

Died suddenly in Gainesville, Fla., during the session of the State Medical Society. His death gives a specially mournful interest to the paper by him in this issue of the *Monthly*, which he was reading at the moment He had read but three or four pages when he was observed to gasp occasionally as if laboring for breath, then grew suddenly pale, looked ghastly, and fell a corpse. His remains were escorted to Tampa, where they were laid to rest. Dr. Wall was about 58 years of age, and was not known to have been in bad health. His name as an advanced thinker and physician is familiar to all acquainted with the medical history of Florida. His death is a great loss to his State and to the profession of America.

Cinnamon for Dysentery.

Surg. Maj. S. T. Avetoom, of Beluchistan, India, reports in the *Lancet*, March 2, 1895, that during the past two years he has cured thirty cases of dysentery—some by one or two doses, the worst by six doses—by powdered cinnamon. He gives it in drachm (4 grammes) doses, mixed with a few drops of water and made into a ball. It is given night and morning, with a mouthful of water. The treatment is derived from the Persians.

"I Have Used Ioda,"

Writes Walter W. S. Corry, M. D., L. R. S. C. S., I. & C., Rosedale Abbey, Pickering, Yorkshire, Eng., "and am satisfied that it is a very powerful alterative, and a great improvement on the old combination of iodide of potassium and sarsaparilla, while the preparation is valuable also as a diuretic, a thing of no small consideration in most of the diseases in which it is indicated."

Free of Charges.

The *Therapeutical Applications of Peroxide of Hydrogen (Medicinal), Glycozone and Hydrozone*, by Charles Marchand, chemist. Ninth Edition. This book of 200 pages, which contains all information on the subject, with reprints of elaborate articles by leading contributors to medical literature, will be mailed to doctors mentioning this publication. Address, Charles Marchand, 28 Prince street, New York.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 3. WHOLE NUMBER, 255.

RICHMOND, JUNE, 1895.

Original Communications.

Art. I.—Non-Infectious Membranous Laryngitis or Membranous Croup—Its Prevention and Medical Treatment.*

By BEDFORD BROWN, M. D., of Alexandria, Va.

Ex-President of Southern Surgical and Gynæcological Association; of Medical Society of Virginia, etc.

I have long been convinced that there are two forms of membranous or exudative laryngitis, entirely distinct in etiology, in pathology and progress, and requiring an entirely different method of treatment. The one form is the *non-infectious;* the other is the *infectious.* The one is *simple inflammation;* the other is manifestly *septic.*

Previous to the appearance and prevalence of diphtheria in this country, I never saw a case of *infectious membranous laryngitis.* The first case of diphtheria which I saw was in 1857, which was the beginning of a fearfully destructive epidemic. Since that time, in every epidemic of diphtheria which I have passed through and observed, I have seen in families and localities where it was prevailing

* Read before the Medical Society of the District of Columbia, May 15, 1895.

genuine cases of infectious or diphtheritic membranous laryngitis. Then, again, where there is no prevalent tendency to diphtheria, I find every season cases of non-infectious membranous laryngitis, or what in former years we termed membranous croup. I believe that these two varieties are in every particular as distinct as simple non-infectious membranous or croupous tonsillitis and true diphtheria.

The prevalence of diphtheria in this country, a disease I never saw before 1857, and scarcely heard of even in the best authorities, has certainly modified the type of laryngitis where it prevails. Non-infectious membranous laryngitis is never conveyed by means of infection or contagion. It is eminently a sporadic disease. For many years past I have seen a single case occur in a family that was never followed by a second case. Cases of this kind I have never isolated from other members of family or friends. They have always had free access to the patient without in a single instance being infected.

Non-infectious membranous laryngitis is essentially a simple inflammatory disease. It never causes septicæmia or blood-poisoning. It destroys life simply by the mechanical obstruction that it produces in the larynx in the form of a non-contagious membrane. I have never seen a case of non-infectious membranous laryngitis in the hot season of summer, but always in the cold damp season of late fall or winter or early spring. It may be expected rather in damp cold than dry cold weather. I have never seen a child contract this disease that had not been exposed previously to cold. Then, again, I have never seen a case in a child over sixteen. After that time the child seems to become immune.

Time and again have I seen the mothers and friends nurse these little patients throughout, breathing for days and nights their exhalations without infection. This cannot be said of diphtheritic laryngitis. In non-infectious membranous laryngitis I have never seen lymphatic complications in the form of infectious lymphadenitis, or croupous tonsillitis, because there was no infection to be conveyed

by the cervical lymphatics. In all my personal experience with non-infectious membranous laryngitis, which extends to many cases over many years, eight or ten years before I ever heard of or saw a case of diphtheria, I never saw it followed by symptoms of paralysis in the slightest degree. Neither have I seen it accompanied with that marked tendency to reduction of arterial tension and failure of the heart that I observe constantly in diphtheria, or to that decided tendency to sudden reduction of temperature.

The non-infectious form of membranous laryngitis is positively sthenic in pathology, running its course in a sthenic type throughout, while the diphtheritic or infectious form is as positively asthenic in type. In non-infectious membranous laryngitis I have never seen the exudation of membrane or other portions of the body as an abraded surface. the genital organs, the anus, or protruded rectum. On the contrary, in the infectious variety I have seen extrusive infectious membranous exudation on all of these localities. In the non-infectious variety I have never seen hæmorrhagic manifestations, while in the infectious variety I have seen copious hæmorrhages from the mucous membranes. I have seen the expectorated membranes of croup, after expulsion, examined and handled carelessly, with no attempt at self-protection, with perfect impunity. I have also seen the exudation of non-infectious membranous laryngitis examined and handled after *post mortems*, without any attempt at self-protection against contagion, with no evil results whatever.

Character of the exudation in the non-infectious variety of membranous laryngitis.—I am convinced, from my long experience in the study and treatment of these two varieties of disease, the infectious and non-infectious, that these two distinct varieties do exist—that they are as markedly distinct in their etiology and pathology and treatment as the simple non-infectious croupous tonsillitis is from the malignant infectious tonsillitis of diphtheria. I believe that the exudation membrane of one is absolutely incapable of imparting either infection or contagion, while the contagious

properties of the other are as virulent as those of variola. I know that the expectorated membrane of non-infectious laryngitis can be expectorated on cloths, on the bedding, floor or anywhere else, and there remain until its disintegration, without ever imparting infection to others. This cannot be said of diphtheritic laryngitis. In my long experience in diphtheria in a family, I have invariably seen one or more cases follow, caused by the infection of exhaled and expectorated matters. I regard the exudation of genuine infectious tonsillitis and laryngitis as containing the infectious germ of the disease. There is the bed of its development and growth. From my standpoint I must regard the exudation of non-infectious laryngitis as a simple plastic membrane, the result of an equally simple inflammatory action as is seen in non-infectious croupous tonsillitis, or in pleuritis, dangerous only from the mechanical obstruction which it affords.

In the non-infectious variety, as life approaches maturity this seems to afford complete immunity. On the contrary, in the infectious variety age does not furnish immunity; consequently we see infectious membranous laryngitis at any age.

Nephritis and uræmia are complications common to the pathological history of diphtheria. It is manifestly due to the general toxic condition of the patient. With non-infectious membranous croup I have never known nephritis or uræmia to be associated in the slightest degree, because in the latter there are no toxic materials existing in the system to produce such results. Neither have I seen in any case after membranous croup or non-infectious membranous laryngitis dropsical indications in the slightest degree.

Symptoms of the Premonitory Stage of Non-Infectious Membranous Croup.—In all cases of non-infectious membranous laryngitis there is a premonitory stage preceding the stage of exudation of from twenty-four to seventy-two hours in duration in different cases. The importance of this stage in its relations to hygienic and prophylactic treatment cannot be over-estimated. This is the stage of simple inflam-

matory action that terminates in plastic exudation, as is the case of pleuritis or peritonitis. This stage presents its characteristic symptoms and signs in a manner that cannot be mistaken.

In the beginning of this inflammatory action in the mucous membrane of the larynx and trachea there is increased redness; some degree of swelling and thickening, and suppression of mucous secretion. Hence the mucous membrane in this stage is red, swollen, and dry. Among the very earliest indications of this state of affairs are certain changes in the vocal sounds, the voice, and cough. When the child attempts to converse, it is observed that his voice is slightly *hoarse* or *husky*; it is somewhat wanting in clearness of articulation. He speaks more distinctly in monosyllables than polysyllables. This indicates to us that his vocal organs are involved. The larynx, with its delicate vocal organs, is exceedingly liable in childhood to take on inflammatory action from exposure to cold and damp.

Before the stage of exudation is reached, the tone of the voice undergoes progressive changes. As the inflammatory action increases, the swelling of the mucous membrane advances, the tone of voice becomes less clear and distinct, and the inability of the patient to articulate increases, and, finally, there comes a period when the tone of voice is reduced to a mere whisper. If the patient is requested to speak, he makes the effort, but fails. This is the condition of the vocal organs that precedes exudation. It is a most perilous and dangerous stage.

The tones of sounds made by the cough undergo as marked changes as those of the voice. The sound of coughing is made almost exclusively in the larynx, and when its mucous lining and vocal cords undergo changes from organic disease, its tone changes with the varying stages of the local disease.

One of the earliest and best indications of the premonitory stage of membranous croup is *hoarseness* of cough. It is simply that the forcibly expired air is forced through a dry, swollen, inflamed mucous membrane. It teaches us

the important lesson that the delicate vocal organs are in a state of inflammation that may terminate in exudation. At the same time, it can be truthfully said that it is not in every case that these premonitory symptoms terminate in exudation, and it is equally true that in every case of membranous croup it has been preceded by these premonitory symptoms.

Very soon the cough is not only hoarse, but *harsh, metallic, changing*, as if the air was forced through a brazen tube. All physicians, mothers and nurses are familiar with this terrible sound. This harsh, metallic cough appears not at the earliest period of the premonitory stage, but is developed rather gradually, and appears about the end of the first or second day. After this, the tone of the cough decreases progressively as the disease advances, growing less and less distinct until its final suppression.

From the very beginning of the premonitory stage to its termination in exudation, or a return of mucous secretion, it is a period of dryness in which there is total suppression of secretion if mucus, and this largely accounts for the modifications of the vocal tones.

This inflammatory condition is only relieved by restoration of mucous secretion or exudation.

From an early period of this stage, there is a slight rise of temperature, especially at nights.

But just preceding the process of exudation, there is invariably, in my experience, a marked rise in temperature—the temperature frequently rising suddenly from 100° to 103° or 104° in the course of a few hours. I have been enabled to predict the stage of exudation in neglected cases by this circumstance. Thus, in cases where there is great hoarseness of voice and intense metallic cough, with slight elevation of temperature, a sudden rise will almost surely indicate the beginning of exudation.

The Stage of Exudation.—So soon as exudation begins, then the function of respiration becomes disturbed, and not before. The inhalation of air diminishes, thus, every step of the way until the termination. Every hour the respira-

tion grows more labored and difficult until there is a desperate and painful struggle for breath. The cough is now suppressed to a degree, that it amounts to a mere effort without a sound. The voice is reduced to a mere whisper, and before the end entirely suppressed, and cyanosis finally ends the painful scene. I believe that I can say, in all truth, that a death of a robust, healthy, vigorous child from membranous croup is one of the most painful scenes that I have ever witnessed.

Prophylaxis of Membranous Croup.—For years past I have diligently searched the authorities for something relative to the preventive treatment of membranous croup, but up to this time I have found nothing worthy of consideration in regard to this matter, which is of so vital importance. In none have I found any regular system laid down for its prevention. As a rule, its development, after the preliminary onset seems to be regarded as something inevitable, and then it is relegated to the surgeon. The important question arises, Is this disease, known to be one of the most fatal to which childhood is addicted, a preventable disease? and if so, what are the proper means to secure that desirable object?

A long experience in the observation and treatment convinces me that it can be prevented, provided measures are adopted in the preliminary stage, before the process of exudation begins. Before this stage it is a *threatened* case; then it is a true case, and a different line of treatment is necessary.

There is a preventive treatment and a curative treatment, both essentially different.

It is in the preliminary, or premonitory stage that is the period for us to do our best work for the prevention of the membranous exudation.

Otherwise we fail in our measures of prevention. I am convinced if taken at the right time, and with proper remedies this exudation can be prevented.

The premonitory stage of membranous croup, from its earliest beginning, usually lasts from forty-eight to seventy-

two hours. This is a precious time to work in. Unlike spasmodic croup, it is somewhat slow and gradual in its approach. I never saw a case of membranous croup that was not preceded two or three days by preliminary symptoms. This is the simple inflammatory stage that precedes the exudative stage. Unfortunately, in a great majority of cases, these slight preliminary symptoms escape notice. Even after the exudation begins the process of obstruction to respiration is gradual. Hence, it is so often the case that these early symptoms are disregarded.

In all my observations and experience in this disease, and I can truly say that it covers many cases, when called to a case and when I asked the question of the parents whether or not the child had shown symptoms of *hoarseness* and *impaired* voice, the reply came that it had, in some instances, for three or four days; but that during this time, while the child was a little feverish, it pursued its ordinary play and had no difficulty of breathing. This is the deceptive point. The respiration does not become difficult suddenly, but so gradually that it is scarcely observed.

Prophylaxis.—Now, relative to *preventive measures*, for many years past I have, when called to a case in the premonitory stage, ordered an emetic—preferably the wine of ipecac—and I have never had cause to regret it. I prefer the wine because it is always of uniform strength, and when combined with water and sugar, is easily taken. Of this, a half drachm or drachm is given, according to age, every half hour until free emesis is secured. Then five or ten drops every one or two hours, as an expectorant, and as soon as mucus begins to be secreted by the trachea and larynx—what the nurses know as *looseness* of cough—the case is safe, and there can be no further danger of plastic exudation. Plastic exudation and mucus cannot be secreted by the same membrane at the same time. But, as a rule, this emetic does not accomplish the object of prevention, but only prepares the way for other treatment.

I regard the *mercurial cathartic* in membranous croup as our strongest and most valuable means of preventing mem-

branous exudation. For forty-two years I have depended on it, and it has never failed me when given in time. I have never lost my early confidence in the power of mercury, and I retain it still. To accomplish good, it must be given with no timid hand, but boldly and fearlessly.

I divide ten grains of calomel with a little sodæ (bicarb.) and sugar into five powders after the emetic, and give one of these every hour until they act copiously. I give these doses to infants of twelve months. They generally act on the bowels three or four times copiously. If they do not, then repeated doses of castor oil are given for the purpose of producing free purgation. The subject of threatened croup is never debilitated by these cathartics, but grows better under their influence progressively. The mercurial seems to start the secretions from every organ in the secretory list.

Purgatives I regard as of infinite importance for the prevention of exudation, whether in the trachea and larynx, the pleura or the peritoneum. I believe them to be a potent means of diversion of action from the mucous membrane of the larynx and trachea to that of the intestines. After the free action of the primary mercurial cathartic, minute doses of the wine of ipecac every hour or two are continued until the character of the cough is changed by the free secretion of mucus. If after this the cough remains harsh, the following prescription is a useful one in promoting secretion:

℞.—Liq. potass. citrat.....ʒss
Syr. acac..... ʒj
Syr. senega..... ʒij
Potass. iodid.....ʒj
Aquæ.....ʒiss
Potass. bicarb.....ʒss

M.—Sig. Teaspoonful every one or two hours.

This prophylactic treatment, if properly timed and executed faithfully, will rarely fail to prevent membranous croup.

Treatment.—Does medical treatment avail anything in

croup after the exudation has taken place? The great majority of authors would answer this question in the negative. I have seen enough in the many cases which have come under my observation in the past to convince me that there is a certain percentage of recoveries after this stage. What proportion I am unable to say, but I believe a larger proportion than is usually supposed. I have, in a few instances, seen recoveries after expulsion of the entire membrane, and still more frequent after expulsion in detached portions.

Another important question is, whether there is any method of treatment or any particular class of remedies capable of promoting the separation and expulsion of the exudation. My experience in the treatment of this stage induces me to believe that certain agents tends to promote this object. Remedies which stimulate mucous secretion from the inflamed mucosa underneath the exudation sufficient in quantity to detach the exudation and dislodge it from its attachments; and again, such remedies capable of exciting frequent and energetic cough. All who have witnessed cases of croup after the exudation has formed have observed the absolute suppression of cough. Cough active, frequent, and forcible is as important in membranous croup as in a case of bronchitis to dislodge every particle of membrane as rapidly as it may be detached. The remedies which I have found most capable of accomplishing these objects partake both of a local and general character.

Local Treatment.—In the first instance, the patient must be placed in a large, clean, airy room. Then a coal oil or gas stove is placed near the bed, and on this a tin pail containing about a gallon of water. To this water is added oil turpentine, ℥j; oil eucalyptus, ℥ss; bicarbonate of soda, ℥j. The water is maintained at the boiling point continuously and without cessation, night and day. Very soon the entire room becomes saturated with the moist exhalations, so that they are condensed on the glass of the windows. The object of this combination is two-fold. The steam from the boiling water holding in solution the vegetable ingredients is for the purpose of exciting mucous secretion from

underneath the exudation. The soda is for the purpose not only of disintegrating plastic exudation, but of exciting frequent cough, which it usually does. For purposes of disintegration, I regard the soda as far superior to the lime. It certainly has acted more efficiently in my own experience. In the case of a child three years old, with all the indications of membranous croup, with entire suppression of voice and cough, with very labored breathing, this arrangement, kept in constant and active operation, excited most harassing cough, with frequent expulsion of shreds of membrane, and terminating in ultimate recovery. After exudation has taken place, in my opinion, the stage has passed for the use of cathartics, emetics or eliminations. It then becomes a question of detachment of the exudation and expulsion by cough. Formerly, at this stage, I gave emetics for the purpose of expelling the membrane in every case. I can truly say that I have never seen the membrane expelled by an emetic; and now I never give emetics for this purpose. But I have seen the exudation expelled by violent cough.

General Treatment.—In my experience, the two most potent alteratives we possess, mercury and iodine, as internal remedies, can accomplish more in the stage of exudation than all others, and I give them in the following combination:

℞.—Aq. distil.....ʒvij
Potassii iodidi.....ʒij
Hydrarg. bichlor.....grs. j

M.—Sig. Teaspoonful every hour.

Frequency in administering medicine in membranous croup is a question of vital importance. Whatever virtues mercury may possess in this disease, I cannot believe are due to any antiseptic influence. Those of us who gave mercury in the inflammatory diseases thirty or forty years ago, and often witnessed its wonderful power over inflammation, are not prepared to admit that all of this therapeutic influence was due to antiseptic agency. There was something else otherwise than that an influence we termed *alterative* which has never been explained, and for more than a century it was used in plastic exudative inflammations for its power in changing the morbid action in these cases in

preventing plastic exudation and modifying inflammatory action. For many years, mercury suffered the condemnation of the profession and went into, for a season, almost universal retirement, but it has been honorably recalled and again restored to a high position in our medical armamentarium for battling with disease.

Nourishment.—My experience induces me to regard an exclusive milk diet the best for the patient with membranous croup. It possesses various advantages. It is nutritious, easily taken, and easily digested; and I am persuaded, after many years of observation, that it is the best diet for patients while undergoing a course of mercurial treatment. I feel very certain that it modifies the deleterious action of mercury on the system. This may be an idea of mine, but it is based upon some substantial facts. I am convinced that the milk-fed patient is, to some extent, rendered immune to the toxic action of mercury. This is true, whether the child is nourished exclusively by the mother's mlk or whether it subsists alone on cow's milk. It is almost impossible to produce in the exclusively milk-fed child those violent local and general toxic effects that we see in the adult. But so soon as the child ceases to subsist on milk, and changes his diet to a mixed animal and vegetable one, he becomes liable to the ill-effects of mercury. An abundance of pure, rich cold milk is the best of all other forms of diet for the membranous croup patient while taking mercury. He is rendered less liable to the irritant action of mercury on the bowels and certainly less liable to salivation.

Mercurial fumigation, while offering some advantages in the local treatment of non-infectious membranous laryngitis, is more particularly adapted to the treatment of the infectious form. In the latter, the full antiseptic and germicide properties of the drug are brought in contact with the infective germ, and in this way becomes an essential element in the treatment of the diphtheritic forms of disease. In the non-infectious form of membranous laryngitis, the alterative action of the remedy is brought into play, and the stimulating influence is exerted on the mucosa of the larynx and trachea.

Art. II.—Appendicitis.*

By I. S. STONE, M D., Washington, D. C.

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We may now claim that idiopathic peritonitis is not a possibility. We chiefly concern ourselves with how infection entered the peritoneal cavity, and with the manner of treatment. Of all causes of peritonitis, it is probable that appendicitis is the most prolific. Apart from the pelvic disorders of women, there can be no question of this assertion.

Anatomical Relations.—The appendix is generally found under the McBurney point, on a line from the umbilicus to the anterior superior spine of the right ilium, two and one-half inches from the latter. I need not tell you that it may be found almost anywhere in the abdominal cavity. I have seen it on the left side, nearly opposite the usual location. Large tumors cause its dislocation nearly to the sternum, as I have seen it carried upwards by a large fibroid tumor to which it had become adherent. It is quite a common thing to find the appendix in the right ovarian region, and it frequently comes into view when a diseased ovary or Fallopian tube is drawn out of an abdominal incision. Cases occur, not infrequently, in which the appendix becomes thus attached to the tube and ovary, the seat of disease being primarily in the tube. In these cases the adhesion is separated, and the appendix need not be removed.

Again, the appendix may become attached to the parietal peritoneum almost anywhere, as, for instance, in the iliac fossa, causing a sub-peritoneal abscess to form. This will demand attention later on.

Symptoms.—Great diversity of opinion exists in the mind of the medical profession as to what constitutes symptoms of appendicitis. This is not surprising, when we remem-

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, held March 11, 1895.

ber that in the past the physician and the surgeon alike had such great fear of the peritoneum. Happily, we no longer need be so much in the dark, for by numerous autopsies and surgical or other practical observations, we can claim positive knowledge, where before surmise or probability was the rule. The first thing disposed of by the surgeon was typhlitis, perityphlitis, cæcitis, et al. Now we have far more definite ideas of the pathology of this interesting little organ.

Appendicular Colic.—The appendix has in it a canal two or more inches in length and varying in diameter. When a foreign body becomes lodged in this canal, or when by any means inflammation extends from the bowel into its lumen, or the opposite may occur, the usual engorgement occurs, and by occlusion the prosenial extremity is closed. Distension from accumulated mucus or muco-pus occurs, until a sufficient vis a tergo overcomes the obstruction and the distended organ discharges itself into the bowel. Here we have the pain and other symptoms of colic of the appendix. There is doubtless some fever caused by this distension. The distension may be so great as to develop a tumor large enough to be discovered by touch. It will account for the pain and tenderness under the McBurney point. Finally, the evacuation of this fluid into the bowel fully explains the sudden relief experienced by patients, and gives great support to the conservative (so-called) method of dealing with these cases.

Perforative Appendicitis.—Many cases, however, do not terminate so favorably. After perhaps several attacks of colic the appendix becomes permanently deformed. It is found in a condition similar to a Fallopian tube, which has been the seat of old inflammatory change. Its lumen is greatly enlarged; its wall thickened and softened. As we find leaky "pus tubes," so do we find the appendix. Adhesions to the surrounding bowel are found in both instances. If the appendix or the tube have not ruptured, there has been a transudation of septic fluids great enough to cause these

adhesions—a localized peritonitis. But, on the other hand, if a complete rupture of the tube occur, or if a foreign body is forced through into the peritoneal cavity, we have all the dangerous and formidable symptoms which we have all doubtless seen.

Sub-peritoneal Abscess.—The perforative symptoms of appendicitis are pretty well marked; but time is fleeting, and we would all like longer days to mature our judgment. We would that this vicious, unrelenting condition would permit us to think longer and more carefully before reaching a decision. Usually, three days is enough to cause death in any perforative case, unless the area of infection is limited by chance formation of adhesions or encystment. We must simply change our days to hours, if we ever expect to save patient by operation, who has a perforative appendicitis.

When the appendix is distended with septic contents, and is fortunately situated, so that its extremity lies in close proximity to the parietal peritoneum, anywhere in the abdomen, especially in the iliac fossa, it may, and often does, adhere to that membrane. This adhesion to parietal peritoneum occurs just as does the adhesion to the intestines.

Septic infection extends through the membrane, and we have an abscess formed, which may, and often does, extend to the region of the kidney, from the vicinity of Poupart's ligament.

Appendicitis and Salpingitis.—These two diseases are in some respects similar; in others, quite unlike. In view of the condition first described (appendicular colic), I doubt not there is similarity. The tube may become distended, and occasionally discharge its contents. I have recently removed the appendages in a beginning fibroid, where there was bilateral hydrosalpinx. Both Fallopian tubes were greatly enlarged, holding perhaps one ounce of serum. A bristle was readily passed through the proximal extremity of the tube, and doubtless could have been passed through the cornua of the uterus. The possibility of oc-

cluded tube being able to empty itself into the uterus, is quite well established.

Again, the suppurative diseases of both organs are extremely alike, but with one very important difference, the location of the appendix among the intestines, and, unlike the tube, not being near an outlet through which rupture may safely occur—as the vagina, or possibly the uterus. It may also be claimed that the source of infection is generally very unlike. The infection of gonorrhœa, causing by far the most cases of salpingitis, which, so far as the author's experience goes, appears to be limited greatly by adhesions, more than infection from other sources, which prevent infection of the general peritoneal cavity. Not so in many cases of appendicular inflammation, for we must have observed the very usual devastating peritonitis which promptly follows a perforation or rupture of an appendix.

Prognosis.—*Recurrent appendicitis* often becomes suddenly perforative, and, without immediate operation, necessarily fatal. If a distinction is made according to the outline in this paper, we can easily see why so many cases are cured by salines and other treatment.

Dr. Hunter McGuire says he compares the *perforative variety* with a gunshot wound of the abdomen, a statement which the author can heartily endorse. The third variety, or what by chance becomes *sub-peritoneal abscess*, is easily disposed of, and is not dangerous, as it allows the slowest mind time to make due preparation for incising the skin and subjacent structures, as in any other abscess. During the past year I have operated, in two instances, in such cases, and in one found a small gall-stone, which had burrowed its way through the appendix, which, being adherent to the peritoneum, was forced through the channel made by the pus, and thus escaping, assisted in formation of the abscess outside the peritoneum. These abscesses are those requiring six to ten days to form, the perforative type requiring three days, or less, to kill the patient.

Treatment.—Given a history of recurrent attacks of

colic in the region of the appendix, we should operate, if possible, between the attacks. The repeated attacks insure some pathological condition, and warrant an exploratory opening. The appendix should be removed, the stump inverted, and Lembert sutures inserted, to close the wound with peritoneum.

If an abscess has formed, and has become encipted, we may, by the exercise of great care, prevent the infection of the peritoneum. Without doubt many cases are made critically ill, by spreading abroad an infection which nature has already tried, in part, to limit. If the appendix is gangrenous, it clearly shows that the patient is critically ill, and that grave danger awaits him. It is just here that the nicest distinction must be drawn between an operable case, and one in which the patient is not strong enough to bear an ideal operation. The best thing to do is always the ideal operation, when the patient will bear it. These patients do not often consent to operation, or their physicians do not always recognize the proper and safe time for a life-saving operation.

Therefore, the author would advise (1st), careful evacuation of pus and septic debris, if present. Then, if the parts are gangrenous, the most careful cleansing, without flushing, and packing, if necessary, around a well-placed drain. A patient, after many days of suffering from abscess formation, especially if peritonitis is present, cannot bear a lengthy operation. In fact, if the peritonitis extends greatly, no patient is expected to survive, with or without operation. The best thing to do, in many bad cases, is to do nothing, but give vent to the pus and to drain.

Finally, the author advises operation in every instance, after we are reasonably sure of our diagnosis.

The only question then is, when to operate? The general condition of the patient is to be taken as the guide, quite as much as the extent of local disease.

Art. III.—Clinical Lecture on Hernia.*

By W. B. DeGARMO, M. D., New York, N. Y.

Professor of Special Surgery (Hernia), in New York Post-Graduate Medical School and Hospital, etc.

Case I.—This child, three and a half years old, has a condition rare in such a young child, *irreducible scrotal hernia.* I have never seen it in one so young. A large part of the hernia goes back, but the omentum is adherent within the tunica vaginalis. Success can only be expected by operative means. I put on a truss to-day, but do not expect relief, and will operate later.

Possibly, by the action of the truss, the omentum may be softened, but it is better to operate and clean out the canal entirely. The truss will not keep up the omentum, but will keep the intestines out of the canal and prevent strangulation. There is no danger in putting truss pressure over omentum. Sometimes the omentum can be stripped from its adhesions by gentle manipulations, but it probably would not be safe to attempt it in this case.

Before bringing in other patients, I want to make a few remarks concerning *strangulated hernia.* You saw the operation for this last Monday, on a boy thirteen years of age, where a large mass of omentum was cut away. The first morning after the operation, the boy ran around the ward, and on the second, tore off his bandages; but in spite of it all, there is union by first intention. The severity of the symptoms must be the guide to action in these cases. If the symptoms are violent and come on suddenly, there must be immediate relief or the patient will die. If the symptoms are increasing gradually, you may delay and try to reduce with the ice-bag or taxis. Taxis is important in relation to strangulated hernia. So much force may be used that death may result. Physicians as a rule use too much force. Anæsthetics were formerly employed to relax the tissues, upon the supposition that strangulated hernia was due to muscular contraction. This is an incorrect sup-

*Delivered at the New York Post-Graduate Medical School and Hospital.

position. The fibrous tissue involved is non-elastic and unyielding. If a large quantity of intestine is in the ring, the venous return is first interfered with, then cut off entirely, and finally the intestine becomes gangrenous. Under an anæsthetic, the patient is merely unconscious of injuries inflicted, and you are liable to use injudicious measures. Before giving an anæsthetic, prepare for an operation, and after taxis fails, operate. If the symptoms are acute, try taxis for fifteen minutes; and if you don't succeed, you are not liable to succeed at all, even after an hour's work, and you will certainly do harm.

Medical treatment.—The hypodermic syringe is dangerous. A hypodermic of morphia relieves the pain and leads the patient's friends and doctor to temporize, but the destructive process is going rapidly on. A strong decoction of coffee is sometimes good, as it increases peristalsis, and so may aid in drawing the bowel from the canal, but it also may add to the pain for the same reason. In the operation Monday, we were obliged to go into the abdominal cavity to find healthy omentum. The constriction is usually at the external ring, but in this case was high up in the canal. If the truss has been worn for a long time there are, usually, fibrous bands at this point. There used to be a question as to the advisability of opening the hernial sac. Now it is the almost universal opinion that it should be opened in all cases, because, if the pathological process has been going on, even for a few hours, the bowel may be black and entirely unfit to return to the abdominal cavity, until restorative treatment has been applied to it. Then the question arises, whether it is best to put the bowel back. When in doubt apply hot towels for half an hour, if necessary. Even when the bowel is black, after fifteen or twenty minutes of this treatment, it may change to a lighter color, and any gangrenous spots will show. It is not dangerous to have the bowel outside the abdomen this length of time. It may be left out for forty-eight hours, if carefully protected by suitable dressings. If you believe that the bowel

has been forcibly ruptured, you may close up the rent with sutures. If from any other reason it is perforated and the nerves are paralyzed, it will be necessary to do resection. The easiest way to meet this emergency, is to fasten the bowel to the abdominal wall and allow an artificial anus to form. An eminent English authority is in favor of forming a fæcal fistula in this way, and puts a drainage tube into the perforated bowel, and the opening gradually closes.

How many men are competent to do a resection? Certainly very few, even with all facilities at hand. There is a method that any man of ordinary skill can do, and that is by using Murphy's button. This device has passed the experimental stage. It used to be said that the button would not pass the ileo-cæcal valve, but experience does not prove this a serious danger. If the bowel is much constricted and a whole loop paralyzed, it is better to resect too much than not enough.

Divide the intestine, and in each end put part of Murphy's button, the intestine being puckered by running catgut around the open ends, and then press the button together, bringing the serous surfaces of the bowel in contact. Union takes place, the parts compressed slough off and the button passes out. The only trouble about the Murphy button is, that you may not have it at hand.

Monsell's operation is also one that any man can do, and I shall speak to you more fully of this method later.

Case II.—This man was operated upon on February 13th. I took away an *enormous mass* (20 *oz.*) *of omentum*, and tied it off with eighteen or twenty silk sutures. He has since been wearing a Canton flannel bandage that I use after an operation. He says that from the pressure of the bandage the wound has broken open. He has never worn a truss since the operation. All cases operated on for the cure of hernia should be watched for a year. The canal in this case is in good condition; there is nothing deep involved in this abrasion—merely the breaking down of recent cicatricial tissue and the protrusion of a little fat, pre-

venting closure. We will snip off this fat, apply balsam of Peru and keep on the bandage.

CASE III.—This man, forty-six years old, had a hernia for years. I did Barker's operation eighteen months ago, and closed the canal up with silk stitches. *In Barker's operation* the incision is made to the external ring. The first stitch is made at the internal ring, by means of a long blunt needle passed up the canal, and then three or more are put in, down to the last stitch, which is at the external ring, thus narrowing the canal through its entire length. This man thinks he has recurrence, and I shall examine and decide. The objection to Barker's operation is, that you do not see the canal above the external ring. In case of fat upon the cord, or adherent omentum at the neck of the sac, there will be recurrence. You will notice in this case bulging on both sides. He has been without a truss but a few weeks. The external ring is closed and the protrusion is through the internal ring into the canal. The upper part of the canal is not closed. If he goes without a truss there will be recurrence of the hernia. If he were operated on again, we would probably find fat or something about the sac causing this condition. I have abandoned this operation on account of its incompleteness in exposing the whole canal.

CASE IV.—I did *Bassini's* operation on this man four weeks ago. There is a great deal of hardening about the canal, and the result is, so far, all that we could wish. I closed the deep structures back of the cord by kangaroo sutures and the aponuerosis of the external oblique by five or six silk-worm gut sutures

I use the silk-worm gut in the aponeurosis to insure permanent union of this fibrous structure.

I do not think there will be any more trouble with the hernia, but shall keep on a bandage for one or two months, to insure success.

CASE V.—This man developed *inguinal hernia* two weeks ago. It is at, but not through, the external ring. He is wearing a truss and will probably be cured. A truss with a light spring holds the hernia all right. In such simple cases we are scarcely justified in advising operative measures.

CASE VI.—We put a truss on this man four weeks ago for *recent inguinal hernia.* The hernia does not drop down at once when support is removed, and he has a fair chance

of cure by the end of one year. I would advise trial of a truss before an operation in recent cases of this character. We can, however, advise an operation with more safety than fifteen years ago, when the mortality was from eight to fifteen per cent., while now it is less than one per cent.

Case VII.—This boy, ten years of age, has a large mass in the scrotum, which apparently came through the external ring. It is not a congenital hernia, because it does not drop down in front of the testicle. This protrusion has true peritoneal covering. There is a better chance of curing than if it was congenital. The boy's health is not good, and this mass seems to be fluid, rather than bowel. He is being treated for heart trouble. We will take his measure and apply a truss. If it is fluid, a truss will not keep it out of the canal, but will prevent the bowel from protruding. Across the abdomen, low down, there is dullness on precussion, and above, resonance, indicating that there is considerable fluid in the peritoneal cavity.

Case VIII.—Here is a child on whom I put a temporary bandage last Monday. It is impossible to retain a hernia perfectly with a bandage. In this case part is retained and the pain lessened, until a truss could be applied. A portion of this hernia is quite hard to reduce. The abdomen is hard from pressure inside, and it requires strong support to keep the hernia in the abdominal cavity. It will have to be watched closely, on account of the strong tendency to protrude. If the hernia is held during the coming week, we may take off some pressure at the next visit. You notice that this child's navel also protrudes. There may be great protrusion and still no hernia. To test it, grasp the tumor between the thumb and finger and notice if anything slips back into the abdomen. I have seen a number of these long navels that had been treated for umbilical hernia.

Case IX.—This child has a small scrotum and swellings in each groin, which may be hernia or testicles. Cases of delayed testicles are very common and troublesome, because they are mistaken for hernia, and a truss being put on, the child is injured. In this child both testicles may be brought down into the scrotum, but they were the cause of the swellings, and no hernia exists. Delayed testicles are a predisposing cause of hernia. Tight belly-bands on children, forcing everything down into the lower abdomen, also cause hernia.

36 *West 56th Street.*

ART. IV.—Quacks and Quackery.*

By A. B. RAMSEY, M. D., McMinnville, Tenn.

I am of opinion that only a few of any given number of physicians have given sufficient amount of square face to face study and investigation to this subject to enable them to fully realize its baneful and wide-spread power.

I am also of opinion that this small number has been materially reduced since the Legislature of Tennessee enacted a medical law that flattered the medical profession and the public into quiescence and a sense of security, with a guarantee of protection not sufficiently far-reaching to control quackery in its subtler forms.

I sincerely believe the subject of this essay, in its relation to the science of medicine and its patrons, should engage the serious attention of every physician who loves his profession, and earnestly desires the realization of all its wonderful possibilities for good.

I believe it is our duty as guardians of the public health to face the subject squarely and boldly, and to seek and find relief. Hence I have determined to submit some facts and thoughts, even at a risk of being denominated an impractical writer on an unpopular subject. I cannot hope to cover the ground in a specific way in this brief paper; but I do trust I shall be able to arouse you in some measure to the necessity for a concert of action looking to ultimate reform. I shall not presume to formulate ways and means of reform, but simply touch upon evils as they appear to me. The States of our Union, with possibly two exceptions, have laws governing the practice of medicine and surgery. They were conceived in the minds of philanthropic doctors, who desired their enactment, not merely for self-protection, but chiefly for the protection of the people, for whom they labored, and for the encouragement and development of scientific men and the refinement of their science.

No self-respecting physician of proper acquirements

* Presented to the Tennessee State Medical Association during its annual meeting at Nashville, April 9-11, 1895.

needs protection against an army of quacks; nor would he ever stoop to beg for that he did not need. However, self-sustenance is the prime consideration in every man's work; it is the first born instinct of nature; it is inherent in the breast of the proudest and humblest creature.

We have spent years of toil and study in the acquirement of ability and means for the relief of physical ills, primarily to earn meat and bread for ourselves and for those dependent upon us; but I proudly claim this is not alone the motive that actuates us in our noble work. The amount the average physician could earn and lay aside in a lifetime of practice would be but meagre recompense for the sacrifice of selfish pleasure and home comfort, and the perpetual agony of vital responsibility. What, then, is the motive beyond self-sustenance that prompts him to the life he leads? He is a philanthropist of the highest order; his nature is brimful of human sympathy and charity and pity; he devotes his life to his fellowman because he loves him, and desires to do him good.

At one time this great country had no laws to establish a standard of qualification in medicine; and while progress towards perfection marched through every avenue of life, and every avenue was guarded by proper and efficient laws, medical anarchy reigned supreme. All men, regardless of intellectual ability or disability, education or ignorance, had equal rights by law to trifle with that we all hold most dear. No man can measure the appalling results of this medical anarchy; dead men tell no tales.

Efforts to effect reformation under law, to place the science of medicine upon higher planes, to protect the people against charlatans and incompetent practitioners, were first made by doctors.

We have believed that "self-preservation is the first law of nature." It is difficult to reconcile this principle with the repeated refusals in many States of the representatives of the people, whose protection was sought, to enact efficient laws on the subject.

After many years of patient importunity, nearly all the

States now have laws more or less stringent governing medical practice.

The laws of a few of these States are almost perfect, and brook no evasion; of many they are doubtless exceedingly lax, but in all they are certainly preventive of much harm and productive of great good, not only to our profession, but to the people.

We who live above the mercenary features of our science, who observe those articles of our code of ethics that enjoin upon us the constant furtherance of the welfare of our patrons and the elevation of our profession, hailed with delight the enactment of a medical law in Tennessee. Many of us believed the days of the quack were numbered, and that in time he would become a memory. This was a sad mistake, for while Tennessee quacks are, for the most part, numbered and registered, and few more will be allowed to smuggle themselves within the protecting pale of the law, quackery, in the form of innumerable vile nostrums and cure-alls, prescriptions of men disqualified intellectually everywhere, and legally in Tennessee, is in the zenith of prosperity. So far as personal competition with quacks is concerned, Tennessee law has sought to establish a limitation, and has ended it, except as to those already in the field when the law was enacted, those who shall become quacks by deserting the ranks of the regular profession, and a not inconsiderable number who have defied all legal requirements, and openly practice without a shadow of authority.

The acts of Tennessee demand of "A" either a diploma from some creditable medical college, or a certificate from a legally constituted medical board before he may practice medicine. By attaching a penalty for violation of the law, the public is given to understand that a violator is a criminal menace to the life and welfare of the people; a promise of protection is construed, and thus the title of M. D., and the prescriptions of any man choosing to adopt the title have a par value in public esteem.

This same "A," though possessing no semblance of medical knowledge or authority, is allowed to diagnose cases and prescribe for patients on beautiful and attractive wrappers enclosing already filled prescriptions. And the public having knowledge of the law and its penalties, trusting our great Commonwealth for protection, believes, without investigation, the prescriber to be legally and medically qualified, has faith in the efficacy of his nostrum, and thus unwittingly swallows destruction to its health and happiness.

Who is there among us who will deny his preference for personal competition with the quack over the subtle and seductive literature that enables him to prescribe for your and my patients?

The power of this monster is immeasurable. Our State winks at his malpractice, and tacitly bids him God-speed in his nefarious business. The medical journals that regularly visit our offices—and I wish to mention especially the *Journal of the American Medical Association* on account of its prominence as an official organ and its supposed purity—periodicals that are expected to keep us in touch with medical progress; that are for the most part our guides in new and improved therapeutic measures; organs whose pages should be as pure as their most ethical readers, have sacrificed ethical purity and moral worth to financial greed, and admit to their advertising columns numerous secret preparations of questionable virtue. The *American Journal* promotes their use in direct violation of the moral and organic law of the admirable Association that gives it name and prominence. The secular press endorses and commends him, and serves him for breakfast to thousands every morning; and, woeful to relate, he is admitted into the sanctum sanctorum of the religious press, whence he emerges clothed in righteousness, and bearing the tender benedictions of God's elect. Dare save a human life with the popular stimulants of the day, and some editors of the religious press hold up sanctified hands in holy horror and plead for mercy for your sin-stained soul. Condemnation

of your therapeutics and praise of vile mixtures containing the same stimulants of impurest quality, appear in companion columns; and yet for a consideration you may have your name transferred from the editorial to the advertising column.

Doff your robes of professional honor and dignity, clothe yourselves in raiment of hypocrisy and deceit, show the color of your gold, and the religious press will send you as evil missionaries into the happy, Christian homes of patrons, to whom faithful and conscientious physicians have devoted the best years of their lives.

Still the same reverend minds that are contributing perpetually through their advertisements and endorsements to the mortality of our land, nurturing the grosser passions of our men, heaping untold and infinite miseries upon our women, and entailing a heritage of physical weakness and moral depravity to unborn generations, are praying and clamoring for reformation of evils in some measure their own handiwork.

A little incident at this point may not be ill-timed. A married gentleman, the head of an interesting family, had in early manhood been the slave of whiskey, was a drunkard. Many years before the occurrence of this incident, he had reformed and become a moral, Christian man; but as a result of his early debauchery, he occasionally suffered some painful kidney trouble, from which his old family attendant always gave him relief. One day seeing in his church paper a highly endorsed remedy, a panacea for all human ills, but his in particular, he procured it and began its use. Its chief ingredient was alcohol, and under its baneful, yet pleasant influence, the old appetite returned in such power as to jeopardize the moral superstructure built upon the former wreck.

Prompt discontinuance of the remedy and strong will power counteracted the influence of his church paper. I suspect this case has many counterparts. I know of men to-day occupying high civil and social places who would

scorn a charge of inebriety, yet are habitual tipplers of patent bitters.

Gentlemen, while the quack whose prescriptions and nostrums are constantly flooding your domain is not there present in the flesh for you to see and feel and combat, I beseech you not to look upon him as an infernal spook, and upon me as a self-appointed medium, holding a seance in your midst to give him hideous form and power. I desire to keep before your minds the fact that his existence is as real as your own; he lives in the flesh, whether it be in your territory or mine, or even beyond the jurisdiction of the State, and constitutes a bar to the full measure of our usefulness that no timid or uncertain means will ever remove.

I have cited him as he appears in the press. I shall now bring him nearer home, and a little further on I hope to be able to show the active part doctors of medicine are taking in his support. In all communities are druggists presumed by law—I say presumed, because they are permitted to practice pharmacy—to be competent in their line of work; looked upon and recognized by you and me as brothers in science, and yet many of them are guilty of unfraternal conduct. All dispense over the same counter physician's remedies; the result of painstaking and conscientious research, and the remedies of the quack.

Some of them openly champion the business of the quack, and for a generous per cent. of profits laud his remedies and vouch for virtues they do not possess; while doctors, who are the creators and benefactors of druggists, are allowed to work out their own salvation, and solicited for liberal contributions to their coffers. Others arrogate to themselves superior medical wisdom—an egotism acquired as a rule from a meagre smattering of knowledge doctors have rubbed off on them by daily friction—and assume the right to treat patients. In proof of this charge, it is necessary to merely cite your attention to the manifold preparations in the shops bearing on inviting bottles such impressive labels as "Our Own Sarsaparilla," "Our Own Kidney Cure," etc., etc.

This active support to quackery, and the disloyalty to regular medicine on the part of some druggists, betoken a sad lack of true fraternity between the sciences of medicine and pharmacy.

Please do not conceive the opinion that I desire to antagonize druggists as a class, or an idea that I would if possible create in you like antagonism. They are absolutely indispensable to us in the practice of medicine, and should receive our hearty co-operation and substantial support in the dispensing and sale of proper drugs and appliances. We can have no fight to make against honest druggists, and my charges are intended to apply only to those who deserve them.

The law TOLERATES quack nostrums; the quack, by means of lavish expenditure and artful advertising, creates a *demand* for them, and druggists, be they honest or otherwise, are either forced to add them to their stock in trade or retire from business. It is needless to say the first alternative is always accepted. The only remedy for this evil, for this compulsory submission to the quack power, lies in the enactment and enforcement of stringent laws prohibiting the manufacture and sale in this State of secret nostrums, impure foods, etc.—a law so insusceptible to technical evasion, and so intolerant of open violation, as to *force* upon an ignorant public the substitution of intelligent physicians' prescriptions for patent medicines. This is the only means by which ideal fraternity can be established, and absolute protection given the people. This result can be accomplished only through the combined, determined and importunate appeals of the medical fraternity of Tennessee to our legislative bodies.

But, gentlemen, this state of affairs pales into insignificance beside the monstrous fact that the very quackery we acknowledge as a hindrance to the perfection of our usefulness, and a grave menace to the health and welfare of our people, and hence condemn, we at the same time nurture and foster in our professional home circle. If not individually active in its support, we passively watch its progress and influence, and if perchance we are sometimes

aroused to action, our efforts are brief, desultory and impotent. Pharmacy has made rapid strides of progress in the last two decades. Homœopathy, with its little pellets of sugar, its infinitesimal dilutions and inoffensive powers tickled the palate and the æsthetic imagination of our clientele, until reformation in a disgusting pharmacy became essential to the retention of our high professional position. Wide-awake chemists were quick to perceive this fact, and set about improving and beautifying our remedial agents, with excellent results, as we all must admit. But there has been a further reaching effect than casual observers will see.

Successes of a few conscientious and scientific chemists were so signal as to attract the attention of legions of manufacturers of varying degrees of honesty and competency, and to fire them with the spirit of competition and avarice. This spirit has induced many manufacturers to sample our offices with innumerable preparations possessing a maximum of beauty with a minimum of virtue. These beautiful, but, in many instances, inert preparations, are always accompanied by attractive and interesting theses instructing *us* in our therapeutic endeavors, whose object is to so play upon our credulity as to induce us to ultimately adopt their subjects into our daily practice.

Many of these drugs are accompanied by voluminous testimonials of M. D.'s of all grades of knowledge, attesting to virtues that I suspect are frequently imaginary.

While the majority of them are no doubt given in good faith, with honest confidence in the virtue of the drugs, some are given carelessly and without investigation, but with no intention to deceive; and I have been informed that an uncertain per cent. are obtained with a consideration. Some physicians whose names appear to testimonials are men of ability, who, after careful investigation, lend their names to honest drugs through a sense of duty and a desire to do good. Their endorsements do not deceive us into the adoption of worthless preparations. Others are of questionable ability, and many no doubt are almost devoid of ability and education; they grope for therapeutic results,

and are, therefore, disqualified for exact scientific observation of therapeutic effects.

Their endorsements and the endorsements of qualified physicians are of equal value to the manufacturer, because the profession at large cannot judge an endorser's knowledge and honor by his name. In these men lies great power for deception and disaster.

It is not alone virulent drugs that cause disaster to human life. I am convinced that more lives are sacrificed to inefficient and inert medicines than to our most dangerous remedies. Why? Because the *use* of such drugs means an absence of potent remedies; and the time thus lost frequently means lives lost. I am convinced that many lives are sacrificed, not to incorrect diagnosis and mismanagement, but to agreeable formulæ, lacking in the active principles essential to exact therapeutic effects. In such cases where does the public place the responsibility? Can you imagine a greater impossibility than seeing the public place the burden where it properly belongs? It should be, but never is properly placed. *Bona fide* formulæ of pure drugs need no witnesses of merit to an educated physician. Exact virtues in remedies will accomplish clinical results impossible in remedies lacking them. I feel that I am voicing the sentiment of every member of this society when I say I do most earnestly desire the speedy advent of the day when honest pharmacists shall not deem testimonials essential to an introduction of honest drugs, and for the day when doctors shall not be so prodigal in their endorsements.

All worthless and uncertain preparations bearing vouchers of merit and purity emanate from fraudulent manufacturers—giant quacks, who presume to make physicians their accomplices in fraud by dictating their treatment.

Is it not remarkable, then, that doctors are so easily induced to lend their names to questionable methods and drugs? It is a lamentable fact, and one beyond controversy, that they are guilty every day—striking telling blows against the purity of our profession, and, heedlessly it may be, aiding to perpetuate the genus quack. Quackery

is quackery, it matters not whether its representative lives in Tennessee or elsewhere; a quack prescription is a violation of the spirit of the law prohibiting quacks—it matters not whether it was compounded at home or abroad; whether by a tattered liniment vender in a hovel, or an elegant gentleman (?) in a palatial manufactory.

Our State makes a demand for qualifications in us that we *must* meet; and still our State is a land of milk and honey for this dishonest trifler with human life. He is allowed to reap a rich harvest from an ignorant public by his nostrums without an iota of responsibility. How indulgent is our State government to him; how infinitely more pleasant and profitable his present position than before the creation of acts prohibiting his practice at the bedside.

It is time *now* to awake from our lethargy. Leaving out of question the moral and philanthropic phases of our calling, we, as business men and citizens, are surely entitled to equal protection with the tradesman and manufacturer against the dishonest and criminal; and surely the people are equally as much entitled to protection against thieves of life and health as thieves of property.

Each day witnesses an increase of subtle power and refined fraudulency in irregular medicine; each day adds to the jeopardy of the people whose health interest we have promised to guard. Shall we be untrue to the moral and ethical code that is supposed to actuate our daily labor? Shall we be content with the insufficient protection now afforded us and the public? Shall we continue to tamely submit to these bars to our progress and usefulness, still indulging in desultory protestation, or shall we institute an active crusade against these evils; array ourselves in an organized and aggressive fight for legal and ethical reform, vowing to give no quarter until knowledge shall have routed ignorance, and professional excellence and purity prevail?

NOTE.—The present Legislature of Tennessee—in session since about January 1, 1895—has positively refused to enact a law having for its object the exposure of quack and proprietary formulæ on the package or bottle containing the nostrums.

Art. V.—Remarks on Sterilization of Milk.*

By WM. P. CARR, M. D., of Washington, D. C.

In view of the now common practice of feeding infants upon so-called sterilized milk, I wish to call attention to some serious conditions that may follow its long continued use, especially when prepared in the ordinary way by parents and nurses.

Chemistry is still far from perfect, and we are still forced to acknowledge that processes of great importance go on in the laboratory of nature that are beyond the reach of our most delicate re-agents.

The chemist is often unable to detect the difference between barren and fertile soils, and we may add to soils certain fertilizing substances in such minute quantity that it is impossible to detect the change in the composition of the soil, except by the marked increase in vegetable growth. Chemists tell us that milk is altered by boiling. That some of its albuminoids are rendered indigestible, and that boiled milk is lacking in some of the important nutritive substances that an infant's food should contain. They tell us, however, that we may sterilize milk by heat without boiling, with little or no change that can be detected. This does not assure us, however, that no change has been made in the milk, or that milk so sterilized is not lacking in some valuable or necessary quality. Milk, to be really sterilized by heat, must be kept at a temperature of 60° to 70°C. for at least twenty minutes. Even this does not insure the destruction of all germs, and the spores of the tubercle bacilli will often germinate after even a much longer exposure to such a temperature. When we remember that milk is a substance so prepared by nature as to be capable of forming all the different and various tissues of an infant's body; when we remember that it is the only known article of diet that contains every ingredient necessary to the sustaining

* Read at the meeting of the Medical and Surgical Society of the District of Columbia, March 11th, 1895.

of life and the carrying on of the functions of the body, we must recognize the fact that we have in milk a highly organized and exceedingly unstable body; and that any reagent, be it heat or chemical substance, that we may add to it will, if sufficiently powerful to destroy micro-organisms, cause an alteration in some of the constituents of the milk. The alteration may not be detected by the chemist, but will be seriously felt by those tissues of the child that are thus deprived of their proper and natural nutrition. I think I have seen this in several instances, as illustrated by one or two cases that I will presently report. But, in practice, sterilized milk is boiled milk. The sterilizers now on the market for family use have no arrangement by which the temperature can be regulated and kept at 140° F. The bottles of milk are set in boiling water for thirty or forty minutes, and the milk is practically boiled. If not, it is not sterilized at all as far as the really dangerous and resisting germs are concerned, and we have an uncertain compromise—a milk altered in nutritive value and not really sterile.

The following are brief histories of children fed upon such milk:

Case I.—A bottle-fed boy, twelve months old, was well and hearty until about three months of age, when he had an attack of gastro-intestinal catarrh. At this time he was put upon sterilized milk, and had lived upon it for nine months when I first saw him, January 27th, 1895. At that time, he was flabby and had a dirty complexion, but was not thin, although his mother told me that he had been gradually losing flesh for two months. He was dull and listless, had little appetite, slept little, and was constipated. The stools were hard and contained strings of mucus, and sometimes blood. He was subject to boils. He had bronchial and nasal catarrh, with a bloody mucous discharge from the nose. The gums were so swollen as to cover the teeth, and would bleed at the slightest touch. There was a large ulcer under the tongue. He had phimosis, and made no attempt to use his legs. I gave him syr. ferri iodid. I treated him for two weeks for chronic gastro-intestinal catarrh without benefit. The sterilized milk was then

stopped, and in two days there was marked improvement in his color, appetite, sleeping, action of the bowels, and general appearance. The next day, with Dr. Ruffin's assistance, I circumcised him, and cauterized his gums. After the operation, I noticed some accumulation of blood between the skin and mucous membrane of the penis, and in a short time a thin, watery-looking blood began to ooze from the wound. I could find no bleeding vessel, and could only control the hæmorrhage by a tight bandage. I was called to see him that night, and found that there had been considerable hæmorrhage and that it was still going on. I was struck by the very perceptible watery appearance of his blood. Next day all bleeding had ceased and the bandages were removed. At the end of a week, the wound was nicely healed and the child was apparently well. The gums were healthy, color good, general appearance good, he was sleeping and eating well, and using his legs. His improvement has continued. Here is a case of profound anæmia and hæmorrhagic diathesis, produced apparently by a lack of fibrin-forming material and perhaps other important substances in the milk, and improvement began immediately when these were supplied.

Case II.—A delicate bottle-fed girl about a year old; had gastro-intestinal catarrh last summer, and was exceedingly ill for several weeks. She finally recovered, and was fed on sterilized milk from that time. She seemed to thrive for several months, and then developed bronchial and nasal catarrh, with a bloody mucous discharge from the nose. She became constipated, anæmic, and subject to boils. One evening, about three weeks ago, she greatly alarmed her parents by vomiting a large quantity of blood, mixed with partly digested milk. Dr. Sothoron was hastily called in, and left what I presume was a placebo. I saw her several hours later, and satisfied myself that the hæmorrhage was from the posterior nares, the blood having been gradually swallowed and then suddenly expelled. I stopped the use of sterilized milk, and was astonished to see the rapid improvement that followed. No other treatment was used. The catarrh disappeared within forty-eight hours, the constipation has disappeared, and the child has gained flesh and assumed a healthy, vigorous appearance.

Case III.—Boy thirteen months old; fed on sterilized milk for six months; became pale; had a number of boils, and symptoms of gastro-intestinal, bronchial and nasal

catarrh. Sterilized milk was stopped; no other treatment; rapid improvement, continuing to complete recovery.

These three cases, and some others of a similar nature, but not so well marked, have made me think that sterilized milk is not a proper infant food for long continued use, though I believe it to be of value in hot summer weather when perfectly sweet; pure milk cannot otherwise be obtained. I do not think any serious harm can be done by its use for short periods—even one or two months.

My cases are too few to warrant positive conclusions, but I think they should cause us to change the diet in any case where symptoms, such as have been described, appear in children fed on sterilized milk, and I would be glad if members of this Society would be on the look out for such cases, and try the experiment of a change of diet and let us know the result.

Investigation of the Influence of Climate on Health.

Chief of Weather Bureau, Mark W. Harrington, under direction of the U. S. Secretary of Agriculture, has undertaken a systematic investigation of climate and its influences on health and disease. Such investigation, it is sincerely desired, will meet with the hearty assistance of the sanitary and medical professions. The object in view is to show to what degree local and climatic peculiarities may favor or combat the development of the different diseases, and to suggest supplementary Sanitary precautions; also to indicate to what parts of the country invalids and health seekers may be sent to find climatic surroundings best adapted to the alleviation or cure of their particular cases. Co-operation of local and State boards of health and of individuals is solicited in sending to the Weather Bureau Office, Washington, D. C., reports of vital statistics from the various localities. Blank forms of reports will be furnished by the Bureau on application. Official envelopes requiring no stamps addressed to the Chief of Weather Bureau are furnished for mailing the forms. A publication containing the collected and compiled facts will be issued monthly.

Art. VI.—Mind and Body.*

By CHARLES S. WEBB, Ph. B., M. D., Atlanta, Ga.,

Professor Practice of Medicine Southern Medical College.

What is mind, and what is body? What is the mysterious, the wonderful link that binds them together? How can they be separated? What affects one will affect the other. One of the greatest men this country has ever produced said, after passing through a trying ordeal, that he felt as if there was nothing in him "below his chin." He had the experience of a good many of all professions, and especially of the medical profession. Have you not often felt, in the trials and struggles of your professional life, that there was nothing left either below or above the chin? Bodily fatigue and mental anxiety have worked together until we feel almost in a condition of collapse. But how about this mysterious relationship between mind and body? You know that you have felt it; then how about the patient? He will watch you as you enter the sick room, but you must not let him know that *you* watch *him*. You may warm yourself at the fire, or talk pleasantly with members of the family, never forgetting the patient, and always keeping your eyes and ears open to find out what you could never do by direct, immediate examination. For instance, in pneumonia you might listen for the cough, or the frequency of the respirations, or take a surreptitious glance at the face of the patient before you go to the bedside to examine him directly. If you walk up to him as soon as you enter, and ask him to cough, you will get something strained and unnatural. Your very presence will excite him, especially if you have a sad countenance and ominous look. Shakspeare expressed a great truth when he said, "For 'tis the mind that makes the body rich."

I knew a physician, highly educated and cultivated, with the utmost confidence of the people, and greatly beloved by them, who was treating a case in which he saw that it was necessary to quiet the nervous disturbance and calm the mental emotions of the patient. But the neighbors would

* Prepared for the Georgia State Medical Association, April, 1895.

insist upon coming in; and there was one good old lady who continued to talk in an excited manner. The doctor could not manage her, and when his patience was exhausted, he shook his finger at her, and said, "Madam, I would like to see you have the lockjaw for about fifteen minutes." She replied immediately, "Well, sir, if I should ever have it I wouldn't send for you."

I had a case once that illustrates the same idea. A young woman, extremely nervous, with conditions of melancholia and great excitement alternating with each other. I called in a physician for consultation; but the neighbors, finding the door not locked, came in unannounced and stood around the bed with anxious looks. I wrote a card, "No one must come into this room except those who are in charge of the sick person." My consulting friend said, "If you put that card on the door you will have all of these people mad with you." To which I replied, "I can't help that, my first duty is to the patient." I put the card on the door, and thus effectually stopped all further intrusion.

It should never be forgotten in our treatment of disease that we have to deal, not with the body alone, but with the body inhabited by a mind which is connected with every particle of that body by countless nervous filaments, acting through them upon it, and affecting to a greater or less degree all of its diseased conditions. The influence of causes acting through the mind is often concealed from the most acute observers, and even when the physician is satisfied that the causes are in the mind, it is often difficult to make his diagnosis with any degree of precision. For instance, in aphasia, either of the amnesic or ataxic kind, or both, we think at once of the anterior portion of the third, left frontal convolution. But even if we have an autopsy, we cannot always find any visible evidence of changes; these changes are sometimes so subtle and silent as to leave no trace behind.

These cases sometimes suddenly develop a tendency to the habit of swearing. I do not mean to say that all persons who are given to profanity are the victims of bodily

changes, but this and many other cases will serve to show that there are many people who "need the M. D. more than the D. D." What would be the use of giving such people lectures on morality? What eloquence could "minister to a mind diseased?" The sweetest singer could never sing a hungry baby to sleep, unless it should come at last as the sleep of exhaustion. Let us not think that when the body is sick it is only sickness of the body, and that the mind has nothing to do with it. In all cases of actual mental derangement, which may occur in connection with any disease of the body, we must agree that both are affected, no matter which began the attack. There cannot be any sickness of the body that does not produce some effect upon the mind, and which is not influenced either for good or for ill through mental impressions. This fact should be kept constantly in the mind of the physician. Everything that he says and does in the sick room is to be regarded as really a medicine, producing often as good effects as any drugs he may administer, and certainly greatly helping their influence for good. To illustrate this idea of mental impressions, I will give a few cases which have not been published:

Case I.—This case was related to me by the physician in charge. He says: "I was called recently to see a man who was suffering torture from what seemed to be myalgia and sciatica. He was a poor man and a stranger, and having no place to sleep had been compelled to remain out of doors all night in the bitter cold weather. After giving him morphia and other drugs he soon rallied, but the pain was still severe. Finding it necessary to continue the opiates in various forms for several days, I afterwards thought it would be wise to discontinue their use. I determined, therefore, to practice a little deception, and see what effect the mental impression would have on his body trouble. Instead of giving the usual hypodermic injection of morphia, I filled the syringe with water, leaving out the morphia, and gave it to him at the same regular intervals. The effect was remarkable. The agonizing pain was relieved, and the nervous system seemed to respond as readily as before. The patient believed he was taking morphia. After a few days, he was able to get out of bed, and was entirely relieved."

Case II.—This case was related to me by a Presbyterian minister, who knew it to be a true case. "Some years ago a young physician, living in Virginia, met a negro man on the street, and wishing to have a little fun at his expense, said: 'Joe, what is the matter with you; you seem to be very sick?' 'Nothing the matter with me; I never felt better in my life.' 'But I am a doctor, and I know that you are sick, and if you don't look out you will be dead in less than twenty-four hours.' The negro, being superstitious, went home, was taken suddenly ill, and died the following day." (I don't understand this case; probably he died from shock. I do not approve such methods of experimentation, but this case serves to show that either the doctor was a prophet or illustrates the powerful influence of mental impression).

Case III.—Mrs. F. remained in her room two years, and refused to come down stairs, although apparently in good health. Finally she came out, and is now engaged in her household duties, well and happy. Who can tell what the body had to do with this, or what subtle changes occurred in the brain?

Case IV.—Mrs. G., a case similar to the above. No treatment in either case except the judicious use of mental impression.

Case V.—John W. (colored) had been using crutches for a long time, being crippled from an attack of rheumatism. A circus company came to town, and John, with the curiosity that belongs to his race on such occasions, stayed near the tent as much as possible. He provoked the wrath of one of the circus men, who proceeded to attack him with a club, but John was too fast for him. He dropped his crutches and ran faster than the other man. I knew him well for several years after that, and he used no crutches.

Case VI.—Rev. Mr. D., old and somewhat crippled from rheumatism, went from church to spend the night with a friend. He had to be assisted up the stairway as he went to retire for the night. That night the house caught fire, and in the hurry and excitement they forgot the old man. But when they finally remembered him they found that he had come down alone, and had walked several hundred yards to a neighbor's, and was safe in bed.

Case VII.—A carpenter, a kind and loving husband and father, and a genial friend to all who knew him. Gradually he began to be disagreeable, and finally cruel in his family, so as to render it necessary for the authorities to take him to an asylum for treatment. The physician in charge gave

him a thorough examination, and finally asked him if he had ever received a blow on the head. He said he had been struck on the head with a hammer. The physician felt for and found the place, and removed the bone with the trephine. The man was soon returned to his family, the same kind and loving husband and father as in former days. If this man, while in the condition mentioned above, had committed some crime he might have been sent to prison, or, perhaps, executed, and gone down to his grave as a ferocious brute, deserving death in the opinion of his former acquaintances.

We should be very careful, therefore, how we as medical witnesses deal with a man on trial for his life or liberty. In this thought there is a lesson of wide application. When we consider what has already been said in this paper, we can readily see that the physician has many opportunities for using the patient's mind for the cure of his body. He can do this by his own manner and expression, exciting hope and a train of agreeable associations in the mind of the patient, causing him to forget himself and his disease. Change of scene is always beneficial, or if the patient is not able to leave his bed change the furniture in the room, and especially turn his bed around so that he cannot see the clock, or take the clock out of the room. How monotonous for a sick man to lie prostrate day after day and count the hours! I have often recommended these changes, and found great benefit. A *little* thing will sometimes turn the case into convalescence. We know this, but many of us do not think of it at the proper time. Any diversion of the mind will have a beneficial effect.

I have read the case of a woman who was cured of melancholia as soon as her husband had the misfortune to have his thigh broken. In her anxiety for him she forgot herself.

The physician must also remember that mental affections may often be cured by making a correct diagnosis, and then the proper treatment of the body.

In conclusion, let me say that the educated and conscientious physician is the greatest benefactor of the human race.

Art. VII.—Notes on a Case of Round Celled Sarcoma, Treated by Erysipelas and Prodigiosus Toxines, after Excision.*

By F. T. CHAMBERLIN, M. D., Washington, D. C.

Laryngologist to Eastern Dispensary etc.

Mr. N., white male; birthplace Arkansas; 26th birthday, August 2d, 1895. Residence, in D. C. one year and four months. Weight, 198 lbs.; about six feet in height; married two and a half years; one child. Previous health very good; only sickness, measles and whooping-cough in early life. Healthy in appearance. Business, type compositor. Family history—father deceased, aged 59, alcoholismus; mother living and in good health; three sisters living, ages 27, 38, and 40 years, respectively; one deceased, age 33 at time of death, which was caused by conditions allied to pregnancy; two brothers living, ages 35 and 37 years. First indication of any trouble existing occurred about October 25th, after Mr. N. had eaten chestnuts. A skin of a chestnut had become lodged between growth (the existence of which patient had no knowledge) and the pharynx. The irritation occasioned by same was such as to cause him to seek medical advice. Dr. J. V. Carraher was consulted, and referred the patient to me.

The date of his first visit was October 28, 1894. On examination, I found a growth of right tonsil considerably larger than a hen's egg, extending from the uvula, which was pushed over almost to the left side, and extending downward about an inch and a half below the tonsil, somewhat pyramidal in shape, with apex downward and to left, with a space for breathing left equal to about the size of a lead pencil. The apex of growth was somewhat mulberry in color and appearance, with indication of early dissolution. The probable dangerous nature of the growth was explained to patient, and he submitted to operation on November 1, 1894, less than one week from the time of his knowledge of its existence.

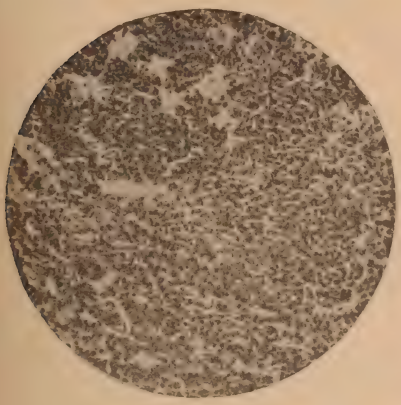
Assisted by Drs. Carraher, W. P. C. Hazen, Bovée, and my assistant, Dr. Battle, I removed the growth to a depth of about three-fourths of an inch internal to pillar of pharynx, involving part of same, and extending downward through length of growth. The operation was performed

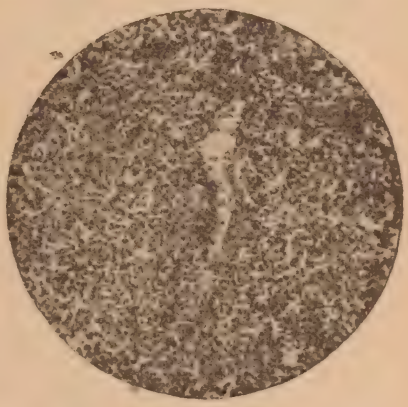
*Read at a meeting of the Medical and Surgical Society of the District of Columbia, April 8th, 1895.

under cocaine. The only difficulties experienced were owing to hæmorrhage and the tendency of the growth to fall into the pharynx, causing gagging and stoppage of air to the lungs, which was obviated by passing silk through apex of growth and elevating the same, while base was being detached. Base was thoroughly curetted, and in the opinion of those present all of tumor had been removed.

On November 23d, noticing a few suspicious granulations, I cauterized the entire base, deeply, with electric cautery. Patient progressed favorably, the wound healed without any indication of a return, until the latter part of January, 1895.

I have neglected, previously, to state that the excised growth was submitted to Dr. Gray, the microscopist to the Army Medical Museum, and that he pronounced it to be a round celled sarcoma, and that the accompanying micro-





photographs were taken from the same sections. By February 14th the growth had not only recurred, but had made such rapid progress as to fill up the space between pillars of pharynx and to extend outside of same, the greatest growth appearing at the lower part of the previous site.

February 14, 1895, temperature of patient in mouth, $100\frac{2}{10}$; axilla, $99\frac{8}{10}$; pulse, 92. Present: Drs. J. V. Carraher and Battle. Injection of 17m. of erysipelas and prodigiosus toxine, administered in right arm. Temperature, axilla, 4:30 P. M., $98\frac{8}{10}$; temperature, axilla, 7:55 P. M., $99\frac{6}{10}$; mouth, 100; pulse, 70. The difference in heart's action may have been partly caused by nervous excitement at time of injection. Arm slightly sore, and slight chill.

February 15, 1895, 12:30 A. M., temperature, mouth, 100; axilla, $99\frac{2}{10}$. Chilly sensation and general aching of body; moderate headache, restlessness, and no sleep; slight pain in bowels. 4 A. M., mouth temperature, 100; 4 A. M., axilla temperature, $100\frac{2}{10}$; 4 P. M., mouth temperature, $100\frac{4}{10}$; pulse, 80. Slight headache, aching of body still present, but better. Site of injection very red and swollen, for about twelve inches in circumference, and extremely sore; 8 P. M., temperature, mouth, 100; axilla, $99\frac{2}{10}$.

February 16th, temperature, mouth, 1:30 A. M., $98\frac{3}{10}$; 11 A. M., arm much better: patient at work type setting.

Injection February 17th, 6 P. M.

February 18th, 11 A. M., temperature $100\frac{6}{10}$, mouth; pulse, 84; arm very sore and red, about eight inches in circumference. Throat less swollen externally and internally; increase of redness about pillars, with commencing slight ulceration of upper right side, under anterior pillar, covered with yellow pus. Patient very positive about throat feeling much better than it had a week ago. 9:30 P. M., temperature, mouth, 99.

February 19, 1895, 7 A. M., temperature, mouth, 99. Throat less inflamed, but ulcer rapidly progressing in depth. Injection given at 6 P. M.

February 20th, ulcer triangular in shape and about one-half inch in depth; treated by application of cupri sulphatis, 50 per cent., and wash of hydrogen peroxid, Oakland Chemical Company, 1 to 3 aqua. Injection given in left arm on February 23d and 25th, owing to soreness of right arm interfering with work.

February 27th, 6 P. M., injection of m. xxvii in neck over site of tumor. Reaction in temperature about one degree, with headache and heavy chill, general soreness of limbs, with decided shooting pains and aching sensation at site of tumor.

Injection on March 4th, 7th, 11th, 14th, 21st, 24th, and 31st gave similar results to the foregoing, except the reactions were less, as regards incapacitating the patient from attending to business, although the throat appeared more inflamed, if possible, on the day following the injections, and the sensations of the parts were the same, but the reaction at the site of injection seemed to decrease. The last injection, of March 31st, 1895, given in the arm, was m. xxxv; or, in other words, double the first, of February 14, 1895.

From almost the first, I insisted on giving the injection

in the tumor proper, but Mr. N. objected, as he was fearful of the consequences, from what he had previously seen of the reaction in the arm and neck, and would only consent to an injection of the first quantity—viz., m. xvii—on April 4th, in the tumor itself. One-third of the injection, I should judge, was probably lost, owing to the sudden gagging caused by irritation of the needle; but about two hours following the injection, there was a decided chill, with an equal reaction.

Now, as regards the results of the foregoing, I will leave you to judge, as you have the patient before you. He has gained eight pounds in weight, and although I consider it necessary to keep up the treatment for some time to come, I think you will concur with me in saying, he is nine-tenths on his way to total recovery. I shall take pleasure in giving you a later report, and will state that my own results in this case, which, although not entirely perfect, would indicate a trial of this treatment, at least in inoperable cases, under which mine would have been classed at the time of first injection.

226 *New Jersey avenue, S. E.*

"The Times" Contribution to the Virginia Hospital.

The Management of this leading daily wewspaper of Richmond, Va., made the liberal donation of all profits connected with its special edition of May 30th to the fund being raised to erect additional buildings in connection with the Virginia Hospital of this city. According to prearrangement, this edition was edited entirely by a number of ladies interested in the charity features of the Hospital, who contributed their services both in writing, reporting and soliciting subscriptions and advertisements. The ladies in charge were fortunate indeed in retaining the services of Miss Alice Houston, who has made so enviable a reputation as the editor in charge of the Woman's Department, etc., of *The Times* during the past year or more. We have to go to press before the collections are fully reported; but we have reason to hope that, with the special contributions, subscriptions, etc. made to this special issue, a handsome net sum will be realized for the worthy object.

Art. VIII.—Chaparro Amargoso in the Treatment of Chronic Dysentery.

By WILLIAM J. CRITTENDEN, M. D., Unionville, Va.

It would be highly injudicious, as well as positively unwise, at this late day, for me to consume the time of your readers, in reading the diagnosis, prognosis, etiology, and clinical history of chronic dysentery. *It is the treatment* which is most intensely interesting to us. It is to it that I invite attention, and to one drug, viz: *Chaparro amargoso.*

This bush is indigenous to South West Texas, growing on thin mesquite land. All parts of the bush possess medicinal virtues—bark, leaves, flowers, fruit, thorns, and tendrils. All of these parts yield their virtues to boiling water.

It is said that after the invasion of Mexico by General Taylor's army, upon their return, a decoction made from the tendrils of this bush proved of great value to his soldiers, who were suffering from camp flux.

A fluid extract has been prepared by Messrs. Sharp & Dohme, the dose of which, in my experience, is from ten to sixty drops. It is an intensely bitter, non-nauseating tonic, alterative, stimulant, astringent, and anodyne, not followed by any evil effects whatever.

On May 31, 1890, I was called to see Mrs. C., who was suffering with acute dysentery. I treated her promptly with calomel, salines, astringents, intestinal irrigation, and perfect rest. At the end of a week she had recovered entirely, apparently; but, in three or four days, she was taken again. In this case, treatment was unsuccessful, the case lapsing into a chronic form. For three years I treated her with all known astringents, laxatives, tonics, medicinal waters, intestinal treatment, diet, change of air, scenery, etc. It is only fair to say, that I had the best medical skill of the land in consultation. At the end of three years, behold my patient reduced from a 140 pounds to 80 pounds.

Pulse small, weak, quick, and feeble; dejections ranging from one or two to twenty-four during the day. Eyes sunken, facial bones projecting, skin dry and brawny, com-

plexion muddy, resembling a person suffering from malignant disease; voice weak and feeble. Such was her condition when I began the use of fluid extract chaparro amargoso, in ten-drop doses every three hours, in distilled water, and gradually increased to twenty-five drops. Note the change in ten days: Dejections began to assume a fecal character; pulse now regular; skin clearer. Continued treatment. At the end of a month, the improvement was marked. I now gave it in teaspoonful doses three times a day. In six months my patient was entirely cured. Note her to-day: A large, corpulent lady, weighing 168 pounds, a marvel to herself, to her friends, and a pride to her physician.

I have also used it in many cases of chronic dysentery, with favorable results, but not so marked as in this case.

I would also ascribe to it germicidal properties.

Treatment of Cholera Infantum.

Dr. Gustavus Blech, St. Louis, Mo., says (*N. Y. Med. Jour.*, March 2, 1895) that cholera infantum is due to chemical decomposition of food, influenced considerably by heat of weather. Bad air, filth and lack of ventilation are predisposing causes. He prohibits for the first day any food whatever. He prefers Hydrozone, being twice as strong as Marchand's peroxide of hydrogen—adding a tablespoonful to a pint of sterilized water for washing out the stomach. As a rule, the vomiting ceases after the first washing out, but the procedure can be repeated if necessary. Also pass a soft rubber catheter as high in the colon as possible, and irrigate every two or three hours—morphia or strychnia hypodermically must be used if indicated. Give no antipyretic—unless apply alcohol to whole body.

Women Doctors.

It is stated that twenty-five per cent. of the students in the Johns Hopkins Medical School are women. The newly elected Professor of Visceral and Regional Anatomy in the Kansas City College of Physicians and Surgeons is Dr. Catherine B. Richardson—Dr. Ellen L. McCarty has been elected interne in City Hospital of Cincinnati.

Art. IX.—A Case of Puerperal Sepsis—Illustrating the Advantages of Local Treatment.*

By WM. S. GORDON, M. D., of Richmond, Va.,

President of the Richmond Academy of Medicine and Surgery, Professor of Physiology University College of Medicine.

Mrs. ———, a primipara, twenty years of age, was taken in labor on the morning of March 17th. The pains were irregular; but her health had been excellent in every respect, and at the onset of labor no untoward symptoms were present; her temperament, however, was excessively nervous and apprehensive.

The pains were inefficient, almost becoming suspended, and I was not summoned again until 2 A. M., on the 18th, when the symptoms still pointed to a protracted labor. I returned at 8 o'clock, and, for the first time, made a vaginal examination, finding the bag of waters ruptured and the head well down, but engaged in a rigid and incompletely dilated os. Believing that I would have some trouble, I called in Dr. Hugh M. Taylor, and, in the meantime, gave sufficient chloroform to deaden the pains. By the time Dr. T. arrived the os had relaxed slightly under the anæsthetic, and the head was somewhat advanced; but the progress of the case was very slow, and our decision was to deliver with the forceps. This was done under anæsthesia very skilfully by Dr. T., with only a nick in the commissure, which was slightly enlarged by the passage of the shoulders.

In about ten minutes I expelled the placenta into the vagina by Credé's method, and traction on the cord completed the delivery.

Immediately afterwards, there was profuse hæmorrhage, which was attributed to a cervical tear; but in spite of all effort to locate the lesion, we were frustrated on account of the free bleeding and the weakness and shock from which the patient suffered.

The hæmorrhage was checked with hot water and ergot; recurred subsequently during an examination of the cervix, and was checked again by hot water. We then decided to do nothing more until the next day, when Dr. Taylor closed a moderate tear in the cervix with two sutures. The os had

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* Read before the Richmond Academy of Medicine and Surgery May 14, 1895.

a boggy, bruised, mottled look, which neither of us liked. The lochia were normal.

When I called on the morning of the 20th, the patient informed me that she had had a chill at 2 A. M. I found considerable tenderness over the womb, tubes, and ovaries —the left side especially—and the temperature $103\frac{2}{5}°$. Epsom salt was ordered to free purgation, turpentine stupes were applied, and carbolated vaginal injections used. In the afternoon, the temperature had fallen two degrees.

March 21st.—Temperature about the same the whole day.

22nd.—Temperature 103° in the evening. Dr. Taylor saw her with me. No change made.

23rd.—Temperature $104\frac{4}{5}°$ in the morning. Stitches removed; womb curetted, flushed out with bichloride solution and Blair's chloral thymol, and packed with iodoform gauze saturated with iodoform and glycerin. In four hours the temperature fell to $103\frac{3}{5}$. Stimulants and quinine were given.

24th.—Temperature $103\frac{4}{5}°$ at 10:30 A. M.; 102° at 5 P. M.

25th.—Temperature 104° at 11 A. M. Womb flushed out and repacked at 2 P. M. Temperature 104° at 7 P. M.

26th.—Temperature $102\frac{3}{5}°$ at 11 A. M.; 104° at 5 P. M. Tenderness and hardness not so marked. Womb repacked.

27th.—Temperature 101° at 11 A. M.; $100\frac{1}{2}°$ at 5 P. M. Womb repacked. Much less tenderness. Chill, with temperature $103\frac{3}{5}°$, soon after the packing. This was due to shock. Temperature normal at 11 P. M.

28th.—Temperature 100° at 11 A. M.; $103\frac{3}{5}°$ at 5 P. M. Gauze removed. Temperature $103\frac{3}{5}°$ at 8 P. M.

29th.—Temperature $100\frac{2}{5}°$ at 10 A. M. No pain. Temperature $102\frac{3}{5}°$ at 5 P. M. Only vaginal douche used, the womb having contracted quite firmly.

30th.—Temperature $98\frac{2}{5}°$ at 11:30 A. M.; $98\frac{2}{5}°$ at 5 P. M. No local treatment.

31st.—Temperature 99° at 12 M. Slight chill in the afternoon.

April 1st.—Temperature 100° at 12 M.

2nd.—Temperature $98\frac{2}{5}°$ at 12 M.; 99° at 6:30 P. M.

From this time convalescence was well-established, and the patient has made an excellent recovery.

This was a case of puerperal sepsis, manifesting itself in metritis, salpingitis, and ovaritis. Although the patient's

pulse and facial expression were good throughout the whole course of the disease, there was decided lymphatic involvement and blood contamination, causing several hæmorrhages from the nose. Neither Dr. Taylor nor I was guilty of any known sin of omission or commission so far as the cause of infection was concerned.

An interesting question to ask is, whether the os should have been sewed up at once, or at all. The shock and exhaustion due to hæmorrhage predisposed the patient to infection, and my belief is that the wounded os was the source of the trouble.

The main lesson to be learned from this case is the value of local treatment in puerperal infection. A certain amount of good was done by tonics, stimulants, full feeding, and careful attention; but in my opinion the patient's life was saved by the surgical measures which Dr. Taylor wisely suggested, and, for the most part, skilfully executed.

The rapid subsidence of the hardness, tenderness, and pain, was far from what we expected; and although we could hardly hope for perfect tubes after such damage, still it is too early to say exactly what benefit may not be derived from tonics and absorbents. The patient has been walking for several weeks, and is improving daily, while, at my last examination, the induration on the left side had decidedly decreased.

There were two other important lessons taught by this case. One was, never to trust vaginal douches to an untried monthly nurse, no matter what her reputation may be; and the other was, never to delay local measures when the temperature, after a reasonable interval, does not decline. I am no routinist, for each case must be met with its own indications; but I am firmly convinced that the various forms of puerperal fever have largely a local starting point, and that the water must be thrown where the fire originated, and where it continues to burn the brightest. It would be well if women could behave as animals after labor, walking about and draining thoroughly, instead of lying down with a torn cervix dipping into a pool of pent-up lochia.

Clinical Reports.

Unusual Complication in Compound Fracture of Lower End of Humerus.*

By S. STRINGER, M. D., of Brookville, Fla.

In October last, two boys, aged about 15, were both seated upon a Texas pony, riding at rapid rate down a steep hill, and urging their steed to greater speed by liberal use of spurs, which each boy had upon his heel. In crossing a wash-out, the horse fell, and when the boys were picked up, one of them, Blexie Bell, was found to be severely injured. He had been anæmic for many months with enlarged spleen, and in general condition simulating leucocythemia.

In about one hour he was brought to my office, and I found the following condition: The humerus had separated from the epiphyses, and perforating the tissues and skin, was projecting one-and-a-half inches on inner side of arm. The elbow-joint, dislocated with olecranon process projecting backward and upward by action of triceps. The epiphyses were both very movable, but were held in their relative position by the capsule of the joint. The unusual complication above referred to, was the radial and ulnar arteries, which, in this instance, had taken their origin high up, being brought out over the end of the bone, where they remained until the reduction of the fracture, which was about two, or perhaps three hours. The soft tissues and skin were torn about two inches crosswise—the anterior end of laceration being adjacent to inner edge of biceps, two-and-a-half inches above joint. The fracture implicated no portion of the shaft of the humerus, but was a separation of the epiphyses, which, of course, left a blunt end, showing the facets of attachment, and between them half inch of the cancellous bone, over which rested the two arteries, pulsating and apparently uninjured by the stretch of at least one-and-a-fourth inches.

Under the influence of chloroform, the bone and vessels were easily returned, the epiphyses adjusted, and the radius brought to its proper place; and while being held in situ, a few stitches were placed to close the wound, and plaster-of-Paris bandage, with pasteboard splints, to keep the limb

* Read before Florida State Medical Association in Gainesville, Fla., April 18th, 1895.

in proper place, with view of anchylosis, terminated the dressing.

Patient was put on a chalybeate tonic and quinine, with antiseptic dressing. Suppuration commenced freely in seven days, when an opening one-and-a-half by two inches was made in the bandage over the wound to facilitate the escape of pus.

Treatment as usual in such cases, and in three months wound closed, with partial mobility of joint, which has continued to increase, till he is now able to feed himself with the hand, and has at least one-fourth movement of the joint.

In looking over the literature of these cases, I have failed to find, out of about forty cases recorded of compound fracture with separation of epiphyses, a single case in which the vessels were brought out over the end of bone. Therefore, I deem this a case of sufficient interest to the profession to bring it to your notice.

To Expedite Unavoidable Abortion.

Dr. C. Marocco, Instructor in Gynæcology, etc., University of Rome, states (*Semaine Med.*, No. 67, 1894,) that the following plan terminates abortion almost without pain in twenty four hours or less. Tampon vagina with antiseptic gauze soaked in glycerine. Then take three or four wafers, one every hour, each containing:

℞.—Phenacetin.....gr. v. (gm. 0.30)
Morphia muriate...gr. $\frac{1}{6}$. (gm. 0.01)
Sugar ..... q. s.—Mix.

Minnesota New Medical Law.

The Legislative Act of ten years ago required that applicants for license to practice in Minnesota must have attended at least three courses of lectures of six months each in reputable Medical Colleges. The Legislature just adjourned, enacted that all graduates of a later date than 1898 must have attended at least four courses of medical lectures in different years of not less than six month duration. Several other States have already either adopted such a law or are contemplating doing so.

Report of Four Unique Gynæcological Cases with Notes.*

By J. WESLEY BOVEE, M. D., of Washington, D. C.,

GYNÆCOLOGICAL SURGEON TO COLUMBIA AND PROVIDENCE HOSPITALS.

In casting about for a subject upon which to prepare a paper for this evening, I concluded that a report of a few interesting cases would be of more value to a Society composed, as this one is principally, of gentlemen who are following general practice. Some of these cases presented room for doubt in diagnosis, and every one of them a wide range of advisability as to the best method of remedial procedure. I will endeavor to bring these points clearly to your attention that they may elicit a full and general discussion from the members and guests of the Society present at this meeting.

CASE I.—*Removal of Uterus and Appendages per Vaginam for Procidentia Uteri, etc.*—Agnes J., colored, 32, widow, was admitted to Columbia Hospital for Women December 20th, 1894. She complained of having had falling of womb since childbirth, twelve years before. She had had four children, the last four years before, and six miscarriages. Her menses began at fourteen years, usually lasted four days, were regular, profuse, and painless; the last occurred December 10th, 1894. She had pain in right iliac region, back, and inferior pelvic strait, which was worse on standing and during work or exercise, and which had troubled her four years. The perineum was found to be torn slightly; the vagina and most of the uterus outside vulva; a small nodular growth attached to top of the elongated uterus, and some adhesions to the uterus posteriorly.

January 3rd, 1895.—The uterus and appendages were removed by the vagina and the vaginal walls tied to the broad ligaments. The enucleation of the uterus without ligatures was attempted, but free oozing, together with hæmorrhage from a small artery on each side, caused me to apply ligatures to these two vessels. Then, too, I found it really necessary to cut through the peritoneum before reaching the top of the uterus in order to safely separate the adhesions between uterus and rectum. The appendages were

* Read before the Medical and Surgical Society of the District of Columbia April 8, 1895.

tied off and removed. The hæmorrhage was simply terrible, far greater than I am accustomed to in any operation. After tying the vagina to the broad ligaments, the top of the wound was closed with sutures and the remaining space packed with iodoform gauze. The bleeding continued several days, notwithstanding that additional packing, raising lower extremities, and tying a few oozing surfaces, were resorted to.

She was, however, out of bed in two weeks, and in two weeks more discharged temporarily from the hospital.

The uterus measured five inches, and the nodular growth on top of it was found to be an osteo-fibroma. The vaginal walls were found to be yet greatly relaxed, and colporrhaphies necessary.

She was re-admitted April 1st, 1895, and on the 4th a Staltz anterior colporrhaphy, and a large posterior colporrhaphy were done. Besides these, external hæmorrhoids were removed. These two vaginal operations bid fair to completely cure the conditions originally existing.

Case II.—*Hæmatometra Resulting from Masturbation Injury.*—S. C., 16, colored, single, admitted to Columbia Hospital for Women October 12th, 1894, complaining of a constant pain in lower abdomen, right iliac region, and of having never menstruated. She had never been pregnant. She had had the subjective symptoms of menstruation for nearly four years. Her general condition seemed good, and an examination revealed the following conditions: Abdomen prominent, being bulged to right of median line, midway up to umbilicus, by a fluctuating "tumor," thought to be an enlarged uterus. The vagina was of large calibre, but only two inches long and ending in a blind pouch. No evidence of the existence of a cervix uteri was found, and an exploration by the rectum and bladder revealed nothing more.

The possibility of pregnancy was eliminated, and November 19th, 1894, the following operation was resorted to: Under chloroform anæsthesia, the inner end of the vagina was carefully divided by scissors guided by a finger in the rectum, and a sound, held by an assistant, in the bladder. Soon an escape of black, tarry-looking, semi-fluid blood occurred. Probably three pints of this material came away. Then the opening was enlarged; the cavity of the uterus, which had contained the blood, was carefully washed out, the edges of the vaginal and uterine mucosæ sutured together, and a light packing of uterus with iodoform gauze

followed by a large piece in the vagina; these, with the application of a perineal pad, completed the operation.

The gauze was removed in three days, and the sutures in twelve days. A permanent canal resulted, but no cervix was distinctly felt.

December 17th.—Patient has not yet menstruated. The uterus is normal in size, except no cervix is felt. The opening from vagina into uterus remains. To-day I saw and talked with her mother, who, by the way, had been a very interesting obstetrical case during my residence as an interne in the same hospital seven years before. The mother told me that it was during her stay at that time in the hospital that the girl, with "a bad girl" associate, had been masturbating, and probably to explore new fields, the other girl had passed a large hot wire up into her daughter, and that following it the patient was in bed three weeks with a bloody and corruption discharge. She was allowed to leave the hospital before time for the next menstrual period, and I have not since learned whether this function was assumed normally.

Case III.—*Accidental Passage into Fallopian Tube of Intra-Uterine Irrigator.*—Mrs. Mary W., a patient of Dr. Perry's, of this city, was sent to my service at Columbia Hospital December 1, 1894, for restoration of a torn cervix and perineum with rectocele. She had had six children, the last one four years ago, when the perineum was torn into bowel, and an interrupted pregnancy a few months before from placenta prævia. Leucorrhœa was present. Examination showed complete laceration of the perineum, a rectocele and a torn cervix, with endometritis.

December 3d, 1894.—I operated, first curetting and washing out the uterus. I noticed no unusual deep part of the uterus in curetting, but while irrigating with a metal intra-uterine irrigator, I discovered the irrigator going very far into the uterus, and to the right side, and was alarmed lest I had punctured the wall of the uterus and passed the instrument into the peritoneal cavity. It, however, seemed to be held in one position, and not easily moved upon its long axis. I then felt through the abdominal wall the Fallopian tube surrounding the irrigator. My fear now was only that I had possibly washed something from the uterus or tube into the peritoneal cavity. The trachelorrhaphy and restoration of the perineum and recto-vaginal septum was done, and no subsequent complication was noted in the

case. The Fallopian tube was slightly enlarged, but perfectly soft

CASE IV.—*Myo-Lipo-Fibroma in the Abdominal Wall.*—The history of this case, together with the report of Major Walter Reed, Surgeon U. S. A. and Curator of the Army Medical Museum, are as follows. They are both copied from the records of his office, my notes of the case having been lost:

"S. P., colored, married, 45 years old, admitted to Columbia Hospital October 28th, 1894. Has had seven children, the last fifteen years ago. Last menstruation one year ago. Complains of a tumor hanging down on right side from 'stomach' to knees, and pain around its attachment; duration about three years. She thinks it has tripled its size in three weeks.

"Examination reveals a pendulous tumor attached to right groin, and extending to knees. Pedicle broad. Diagnosis: Nature not determined. Fibroma, sarcoma, and omental hernia considered.

"Operation Nov. 22, 1894. Growth removed by surgical operation, and found to have developed in areolar tissue of abdomen, and weighed about five pounds; not a hernia but a solid tumor.

"It was presented to the Army Medical Museum.

"The tumor consists of a globular mass, larger than the head of a new-born child, having a rather elastic feel. Upon section, the cut surface is moist and smooth, having a somewhat transparent appearance, such as is shown by a very soft fibroma or myoma. Microscopical examination of sections shows, in addition to considerable adipose tissue, a large amount of smooth muscle and a moderate amount of white fibrous tissue. Sections stained with Van Giesen's picric acid fuchsine exhibit the relative quantity of smooth muscle and white fibrous tissue very perfectly.

"As the myomatous structure is greater in quantity than the adipose tissue, the tumor would be properly designated as a myo-lipo-fibroma."

The interesting pathological features of the first case in the series are as follows: The long uterus, the tumor in its fundus, the adhesion of bowel to uterus, and the protrusion of vagina and uterus out through the vulva. To these might be added a condition of the blood which increased the ten-

dency to hæmorrhage—merely an oozing from the raw surfaces.

There was nothing of importance concerning the diagnosis, but in the treatment much difference of opinion may be expressed, as many points of deep interest are present in the case.

In the first place, was the surgical treatment better than would have been a celiotomy, a separation of adhesions, hysterorrhaphy, and what other minor work from below, as was then found necessary? Amputation of the cervix, added to anterior and posterior colporrhaphy, would have failed, for even after stitching the vagina to the broad ligaments, marked vaginal prolapse was present. Besides, the osteo-fibroma of the fundus remained. The uterus might have been removed without the appendages, but is this advisable when operating from below? I think the danger of abdominal or tubal pregnancy too great in such cases. It will be noted that the enucleation method, as practiced by Langenbeck in 1813, was begun and abandoned owing to severe hæmorrhage, to adhesions, and to a conclusion that the appendages should also come out.

In the second case, a nice point in diagnosis was presented. Generally, if an ignorant colored girl, with an abdominal "tumor," and a history of being but sixteen years of age without a menstrual epoch, apply for relief, we are almost sure to diagnose, and that correctly, pregnancy. If an examination leads us to believe she has not a virginal vagina, then we feel almost certain of the correctness of our diagnosis. A vaginal occlusion need not cause less faith in our opinion previously formed. For, do we not have cases of women in labor where such occlusions have to be opened before delivery can be accomplished? And do we not have plenty of cases of pregnancy in young women whose first attempt at menstruation has been nipped in the bud? We do not always get the vaginal discolorations, the breast changes, etc., in the first four months of pregnancy. We must, however, in cases of this kind enquire for the pres-

ence of menstrual molimina. In this case, however, the diagnosis was made at the first examination.

The third case represents admirably the amount of relaxation of the Fallopian tubes that often follows pregnancy and labor. It also shows the lack of danger from the use of clean surgical instruments as well as the danger of tubal infection from a diseased lining of the uterus following labor.

The last case presented a fine point in diagnosis that I did not make until the operation was under way. That point was whether this was a solid tumor uncomplicated with bowel and omentum—hernia.

I could not possibly decide this point, and concluded to operate carefully, looking continually, during it, for a hernia, which was not present.

Dr. Walter Reed was much interested in the growth, and made the careful microscopical examination above noted.

1404 *H Street.*

The Medical Society of the State of West Virginia

Will hold its Twenty-Eighth Annual Meeting at Davis, W. Va., June 26th, 27th and 28th, 1895. The committee of arrangements is doing everything in its power to make the meeting a pleasant and profitable one. Programme will be mailed two weeks before the meeting. It is hoped that the profession will see that the programme is filled with valuable papers. Send titles at once to the Secretary, Dr. G. A. Aschman, Wheeling, W. Va.; Dr. M. M. Smith, Davis, W. Va., President.

A Desk Memorandum Block

With pencil attached, has been issued by Messrs F. Stearns & Co., Detroit, Mich., which is useful upon the table of every doctor. Each of our readers can obtain one by addressing the Advertising Department of this excellent firm of Manufacturing Pharmacists—mentioning this journal.

A Monstrosity—Maternal Impression.

By W. O. McCABE, M. D., Davis Mills, Va.

The case I wish to report is interesting chiefly to embryologists; but, owing to the infrequency of their occurrence, I will briefly give a history of a case which came under my observation some time since.

On the 27th of last February I was called, in great haste, eight miles, to attend Mrs. B. H. (white), æt. 36, in her fifth confinement. On arriving, at 7 P. M., I found she had been in labor about twelve hours, and all signs pointed to full term pregnancy.

She informed me that all her previous confinements had been normal and quick—not requiring the assistance of a physician. The reason she sent for me was, that she was confident this was an abnormal case, and that she believed the child to be born was deformed, because she saw a man with a deformed head about six months before, and was so much impressed by his appearance that it was constantly on her mind in connection with her expected child. I at once had her prepared in the modern aseptic manner, and examined her externally. This revealed fœtal heart and uterine souffle distinct. By vaginal examination, I soon found I had a case of face presentation (R. M. I. P). The os being fully dilated, I ruptured the membranes and delivered an eight and half pound monster, *with a brainless head.* The neck was short; the head rested directly upon the shoulders, which were full and broad; the face turned somewhat upwards, and the eyes were prominent. The head had the appearance of being cut off by a straight line from the superciliary ridges of the frontal bone to the occipital protuberance of the occipital bone, the ears being left intact, but the top turned downward. There seemed to be something like a large blood clot lying on the interior of the base of the skull; no bony covering, hair or skin. Excepting the head and neck, the body and limbs were perfectly normal. The stethoscope revealed fœtal heart sounds for fifteen minutes after birth. I used the methods to resuscitate the child, as recommended by Lusk; also the hypodermic injections of alcohol, but all proved a failure. The fact that this was a face presentation, was easily accounted for by the large amount of amniotic fluid and

abnormal head. The second stage of labor lasted forty-five minutes.

The woman made a quick and complete recovery.

I was informed that there was a case of anencephalus similar to this one, not far from this place, the woman being frightened some months previous to her confinement at the same man. I think this all goes to show that maternal impressions is the great factor in causing such deformities.

Case of Strangulated Umbilical Hernia; Necessitating Resection of Sixteen Inches of the Bowel—Recovery.

By STUART McGUIRE, M. D., of Richmond, Va.

PROFESSOR OF PRINCIPLES OF SURGERY, UNIVERSITY COLLEGE OF MEDICINE, RICHMOND.

Mrs. T., age 55, large and fleshy, mother of nine children. History of umbilical hernia of sixteen years' standing, with occasional attacks of strangulation, relieved heretofore by taxis.

Called to see her in consultation with Dr. J. N. Ellis, at 11 o'clock on the 13th of last April. Found the patient with an anxious face, rapid pulse, and suffering with nausea, vomiting, and severe colicky pains in the abdomen. Bowels had not moved for three days, despite self-prescribed purgatives and repeated enemata. There was a swelling beneath the umbilicus about the size of an orange, and all efforts to reduce it failing, I advised an immediate operation, and the patient was moved to the Retreat for the Sick.

Assisted by Dr. Ellis and the Interns of the hospital, I operated on her at one o'clock the same day. An elliptical incision, embracing the hernia, was made through the skin, and the wound deepened until the neck of the sac was reached. This was cleared all round, and the hernia then opened. It was found to contain a coil of the small intestine, and a mass of omentum. The ring was incised above and below, and the contents drawn out for inspection. About sixteen inches of the gut was found gangrenous; it was resected, and a V-shaped piece of its mesentery excised. The ends of the gut were approximated by means of a medium size "Murphy Button," and the mesentery united by fine silk sutures.

The omentum was found matted together by inflammatory adhesions, and much congested, hence was ligated and removed. The edges of the ring were then pared and the opening closed by interrupted silk stitches. The fat and skin were brought together by a separate row of silk-worm gut.

The patient was put to bed in good condition, and made an uninterrupted recovery. She suffered no pain and had no rise of temperature. Her bowels moved on the third day. The wound healed by primary intention, and the stitches were removed on the eighth day.

The button was found in the rectum on the twentieth day, and had to be extracted with a pair of forceps. She was discharged from the hospital, cured, at the end of the third week.

I have not attempted to report the operation, or after treatment of the case in detail, but merely record it as an attestation to the value of the Murphy Button, an invention which has revolutionized intestinal surgery.

Two Interesting Cases of Abdomino-Pelvic Surgery.

By J. WESLEY BOVEE, M. D., Washington, D. C.

When abdominal operations are being done by hundreds, one must have a marked temerity to report two cases of this kind of work. The interesting features in these two cases have seemed worthy of note, and I therefore bring them to the attention of my professional brethren. To me it seems quite unique to find in a pelvic abscess, not connecting with the bowel, a marked odor of sulphuretted hydrogen, and its origin would make an interesting study. The septic conditions of this patient, together with the œdema of different parts, and other symptoms of great feebleness, rendered an operation hazardous; but as I have seen apparently worse cases recover by operation, the surgical relief was offered this patient, without reserve.

The other case demonstrates, in an unusual manner, the tendency of pus to reach the surface. The amount of deperitonized surface that was covered by the appendices

epiploicæ was great, and the result excellent. This case, also, is nearly typical of a class in which the endometrium infection is important, and in which curettement is positively necessary, in order that a complete cure may be secured.

CASE I.—*Left Tubo-Ovario-Colic Abscess and Right Pyosalpinx, with Endometritis—Recovery.*

J. B. W. (single), 27, was admitted to Providence Hospital about March 15, 1895, complaining of severe pains down the lower extremities, that had troubled her for some time and confined her to bed for the last two weeks. Considerable morphia was required to control the pain.

About April 1, 1895, I was asked to see her. Upon examination, the uterus was found enlarged, forward, and the seat of endometritis. On either side of it, and behind, was a solid mass, and more or less sense of fluctuation. There was hyper-sensitiveness in this pelvic roof, and I was satisfied that suppuration was going on. I also noticed the linea albicantes that always accompany advanced pregnancy.

Her history, as given to Dr. Marbury, the House Doctor, was as follows: She began menstruating at the age of 13, became pregnant at 20, and was delivered by a midwife of a feeble child, that lived two weeks, dying of jaundice; labor easy, and left bed in nine days, feeling well. About two years ago she began having profuse and painful menstruation, lasting six days; leucorrhœa; pelvic uneasiness, and severe pain in the region of the left ovary. These gradually became worse, and at present she is in constant pain.

She is well nourished; bowels regular; was treated here two years ago for general cellulitis of the hand and arm, and for rheumatism. Specific history (hair dropping out, etc.), but denies ever having had syphilis.

April 7, 1895, I operated on her, before the students, doing first a curettement, introducing a gauze drain into the uterus, and, second, a celiotomy. The omentum was found adhered to the whole anterior half of the rim of the pelvis, and was liberated. The pelvis was then found to be filled almost completely, pushing the uterus upward and forward. In trying to liberate this left appendage from the surrounding structures, it ruptured, allowing the escape of a few ounces of foul-smelling pus. The appendage was carefully separated from the colon and removed. The left Fallopian

tube, and ovary, and the descending colon, had been the wall of a large abscess. The separation of the tube and ovary from the bowel left a surface on the bowel wall about two inches wide and five inches long, that was stripped of peritoneum, and extending from this upward and around the bowel to the left for three inches. The pus had dissected up the peritoneum, was evidently burrowing upward along the bowel, and where it would have stopped is speculation This separated peritoneum was removed with scissors; the surfaces thus exposed scraped of *debris*, and all covered with the appendices epiploicæ and stitched with No. 1 silk. I should mention, also, that a part of this surface was stripped of a portion of its muscular wall, and required some suturing before the covering was done. The right ovary was nearly normal in appearance, except deeply imbedded in the adhesions of the tube. The first appearance of the right Fallopian tube, was that it was about two inches in length, distended by pus to some extent, and that its fimbriæ had become changed into a smooth, rounded extremity. I exhibited it to the class as such; but a tense structure, quite thin for the first inch from the (then thought) distal end of the Fallopian tube, and slightly thicker and larger below, extended almost perpendicularly downward from the top of the middle of the right broad ligament. It was firmly adhered and seemed to be an adhesion band. I liberated it from its adhesions, and was surprised to find the true fimbriæ, still recognizable, at the lower end of it, thus proving it to be a part of the right Fallopian tube. It is unique. It contained pus both in the part next the uterus and in the fimbriated end. The whole appendage was removed. Salt solution (normal) was used in washing out, and glass drainage used three days, and then superseded by iodoform gauze, which in turn was abandoned the eighth day. A foul-smelling discharge from the abdominal opening continued, in spite of daily washings with hydrogen dioxide, until the seventeenth day.

The patient left the hospital at the end of four weeks, feeling well and strong. The condition of the right Fallopian tube was so peculiar. as was the abscess on the left side, that I am emboldened to report the case..

CASE II.—*Tubo-Pelvic Abscess, containing Sulphuretted Hydrogen and Pyosalpinx Celiotomy—Death.*

Mrs. Julia W., 38, was sent to Columbia Hospital by Dr. John T. Cole, April 11, 1895. She had been married 20

years; had had nine children, the last two and a half years ago, after a normal labor. She had been ill fourteen weeks, having been attacked with severe pain in the right side and lower abdomen, just after partaking of supper, which she had cooked. This attack was occasionally repeated during the following six weeks, so that she was most of the time in bed. During the past eight weeks she has been constantly in bed and extremely ill. During the whole fourteen weeks of her illness, she had had a nearly continuous flow of blood from the uterus. She seems very weak, pulse rapid, and a mitral regurgitant murmur was noticed. An examination revealed a protrusion of the anterior abdominal wall to the right, slightly, and extending five inches above pubes and about five inches broad, boggy to touch, and has been present six weeks (patient says). Cervix short, lacerated, and sound passed to right three inches. Considerable œdema of ankles and along tibial crest; very anæmic, and has apparently lost considerable flesh during illness. No protrusion of mass downward.

During the next three days the temperature varied from 100 to 103, and on last Monday (15th) the abdomen was opened, under ether. The omentum was found adherent to front of pelvis, and was ligated off; later peeling off the distal ends.

Under it was found an abscess filling the vacant space in the pelvis, rising up over the bladder and uterus, and on up nearly to the umbilicus. It was considered a tubal abscess of the right side, though no pelvic landmarks were found.

In separating the adhesions, the abscess was torn into, and a large amount (probably as much as a quart) of fœtid pus, containing sulphuretted hydrogen to a marked degree, escaped. It was grayish-brown in color, and very thick. the posterior surface of the abscess cavity was found to be the large intestine.

1404 *H Street.*

Medicine

Is the title of a "Monthly journal of Medicine and Surgery," edited by Harold D. Moyer, M. D., and published at $2 a year by Mr. Geo. S. Davis, Detroit, Mich. It is neatly issued; sixty-four octavo pages; began April 1895, price $2.; started well, and that it may do well, is our sincere wish.

Correspondence.

Chloroform in Labor.

Mr. Editor,—As I presented a paper entitled "*Chloroform in Labor,*" some years ago, before our State Society, I have read the article on the same subject by Dr. Edwin Ricketts, of Cincinnati, in your issue of February last, with great interest. With most of the author's statements I am in full accord; but I must take issue with the statement, near the top of page 1,040, that "we have on record about forty cases where death took place during the administration of chloroform in labor."

I think the doctor has made that statement without investigating the records. I made a somewhat similar careless statement a number of years ago, and was at once called upon by Dr. Reeve, of Dayton, Ohio, for my authority. After investigating all the records at my command, I was enabled to find two or three doubtful cases where death had occurred during the administration of chloroform in labor. I say *doubtful* cases, because no post-mortem was made, and we know that sudden death may occur during labor from several causes, and death in these cases could not be positively attributed to chloroform, unless post-mortem showed no other cause for the catastrophe. I know of no drug which I administer with as great confidence as I do chloroform in labor. I have done it for years, and have never met with the slightest evidence of any ill effect.

During the second stage, I give chloroform more freely than is advised by Dr. Ricketts. In cases of primiparæ, I almost invariably give it to the surgical degree, so as to secure as complete relaxation as possible of the perineum. Voluntary effort being abolished, I am enabled to delay, somewhat, the delivery of the head, so that a ruptured perineum is almost invariably avoided.

I am happy to state that my article, the conclusions of which were very widely reprinted by the medical journals at that time, made many converts to the use of chloroform, and I write this in order to correct the error of Dr. Ricketts, fearing that if the statement went uncontradicted it would prevent many practitioners from using this God-given drug.

Very respectfully,

112 N. 4th St., J. F. Baldwin, M. D.
Columbus, Ohio, April 26, 1895.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary; Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va.

Results of the Operation for Strabismus.

[CONTINUED FROM THE MAY NUMBER.]

Such is Schweigger's description of the operation of simple tenotomy. The words, "I only consider the separation as perfect when the hook, passed up and down behind both ends, can pass freely to the corneal margin," have to be considered; for they advise not only the section of the tendon but also of the elongations of the tendon capsule, whose functions, in steadying the eye moving under muscular action, cannot be over-estimated. Deprive any muscle of the regulating effect of the capsule of Tenon and binocular vision will be difficult for the eyes to attain—impossible for them to maintain when the muscle, whose tendon capsule has been much injured, is called into play. Take the following two cases by way of example:

Mr. D., aged 28, operated on in early childhood for internal squint O. D. But one operation was performed, and it is extremely likely that the operation was that of "simple tenotomy," in which the tendon and all of the lateral expansion fibres had been freely separated. The result: Upward and outward squint; with restricted movements for the right eye in all directions. Loss of binocular fixation. V. O. D., with correcting glass (+ 3 D. sph.) $=\frac{18}{15}$; V. O. S., with correcting glass (+ $\frac{3}{4}$ D. cyl. ax. 90°)$=\frac{18}{15}$. Patient can use either eye at will, but is conscious of the effort necessary to change from one eye to the other. After some practice the muscular relations of the two eyes are found to be right hyperphoria 6° to 8°, exophoria 8° for distance. Operations for this hyperphoria and exophoria resulted in giving the patient the power of seeing (through red glass) two images. At times these two images are superimposed. Mr. D., however, finds it impossible to maintain the two images in this superimposed condition, as the second image gradually moves further

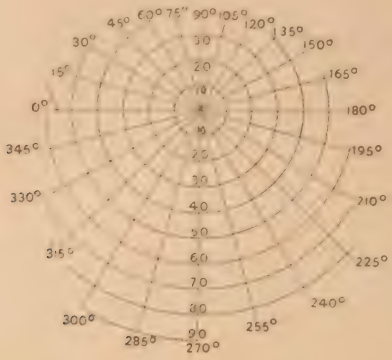
and further away. (The second image is the one seen by the non-fixing eye.)

In this case we have as the result of the elimination to a very great extent of the control action of the capsule of Tenon on the internal rectus an exaggeration of the condition which existed in the following case, one which demonstrated to me the necessity of preserving intact at least the outermost fibres of Tenon's capsule. In this case the marked ametropia has to be taken into consideration. Its relations to squint are very interesting and important.

Mrs. R. had marked exophoria, accompanied by most annoying eye symptoms, which the correction of the refractive error failed in any way to mitigate. No hyperphoria for either eye could be proven. I advised "partial tenotomy," *i. e.*, tenotomy where the insertion of the tendon, but not of the tendon capsule, is changed. I made, in the usual manner, tenotomy of the right external rectus. On measuring the correction thus obtained, I found that there had been none. I then cut the innermost of the capsular fibres (*i. e.*, those nearest the tendon). Still the prism tests gave no correction. I then endeavored to cut a few more of these capsular fibres, when I found that I had cut through the entire lower prolongations. On testing the eye, I found that I had produced diplopia, not, however, simple lateral diplopia, *but upward and lateral* diplopia, which was most annoying to the patient. Some hours later the patient "felt something snap in eye," after which the diplopia became simple lateral diplopia, (the "snapping" sensation I take to be the result of muscular action, following which the few remaining fibres of the upper prolongations of the capsule from the external rectus were torn loose). The result of this injury to the capsule of Tenon? With the vertical prism test exophoria O°, esophoria O°; with the horizontal prism test hyperphoria O°. This test, however, held only for objects directly in front of the patient, and, then, when the patient was holding the head erect. For example, if the patient raised her head to look at the moon it was always double. If she lowered her head to thread a needle, it was with the greatest difficulty, and then only for certain positions she could avoid the confusion arising from diplopia.

I give here the field for diplopia as taken with an ordinary perimeter, the object being 15 inches from the eyes.

The darkened part of the field being the area for which diplopia occurred at 15 inches.



What to advise as a remedial measure I confess I did not know.

Mrs. M. died some months later in giving birth to a child, and the difficulties of the case were removed from me. The muscular condition of the eyes was unchanged at the time of her death.

This was one of my early tenotomies, and will be one of the latest in my memory.

Chart shows condition 5 months after operation.

If we examine the above chart for a moment, we can see a part of the value of the fibrous prolongations covering the tendon. They regulate, both in the contraction and relaxation, the actions of the muscle to which they belong. In a word, regulate—*i. e.*, steady—the line of force of the muscular action.

The above chart shows a possible result of their injury. The result must vary, naturally, according to the extent and position of the injury.

Consideration of this case shows another thing, viz.: *that injury to the capsular prolongations may determine the upward or downward element in the squint following our "simple tenotomy."* Hence, in simple tenotomy, it is important to bear in mind that, if following the section of the tendon, the capsular prolongations coming from the internal or external rectus be divided to a greater degree above than below, or

vice versa, then may be added the so-called vertical element to the resulting condition of the eye. All of this is important.

Schweigger, in Case 3, page 11, makes this statement, that "the remarkable feature in this case is the increased vertical deviation after the tenotomy of the internus O. S." There is little that is especially remarkable about it, if we bear in mind the above observations; and also that in the first instance we may have been dealing with a case of hyperphoric "internal squint," *i. e.*, internal squint due to hyperphoria. All of the cases mentioned in Schweigger's article are, however, so imperfectly reported that it is impossible to form, in the light of George Stevens' teachings, any adequate idea of the character of the strabismus upon which the operations mentioned in the article were done. The goal of all our operative interference in strabismus is binocular fixation. It is our duty to keep this goal and the means of attaining unto it always in view.

Let us look for a moment at some of the cases reported by Sweigger as having been operated upon by his method of "simple tenotomy of the internus." The first set of cases are called those of "convergent squint with normal binocular vision." The cases are below (in Schweigger's article) spoken of as ones where the squint "developed at an age when binocular vision had become a habit." The report of the cases makes it very likely that this statement would bear considerable modification had the observations on the cases been more exact.

Case 1.—Periodic squint for six months, with diplopia"; "Red glass diplopia, corrected by 16° prism"; "Tenotomy of internus O. S."; "Diplopia as before." Again, "Tenotomy of internus O. D."; "Three years later occasional diplopia"; "Fourteen years from first test prism of 14°, to correct red glass diplopia"; "Occasional periodics quint." (Results of the tenotomies? Practically nothing.—J. D.]

Case 2.—In this case the history is so incomplete that the result should not be given as one obtained by simple tenotomy. It is a case of "recent diplopia" in a patient "aged 32." The case, as presented, suggests the possibility of temporary paresis of externus.

Case 3.—But it is useless to continue criticism of the individual cases, since the observations as given are so imperfect.

Let us give Scheigger's conclusions—"The direct result of the tenotomy could be determined in only twenty of the twenty-five patients with normal binocular vision, and measurable deviation of the double images, and the final result is only ten. We soon discover a poor result. * * * A satisfactory and permanent result was obtained by operating on the fixing eye in two cases, the result averaging 10°. * * * At first, though, it would seem as if cicatrization were at fault in relapses, but this cannot be so always, for in cases 6 and 9 tenotomy of the squinting eye gave a permanent result. * * * Cicatrization, therefore, has not much to do with failures, and the cause must lie deeper. In the same way these cases show a defect in the theory of mere relaxation of the tendon."

These cases show more than this—they show that the part played by the superior recti was in no case considered; they show that the regulating influences of the expansion fibres from the muscle and tendon were not properly weighed; were more or less sacrificed in the interests of "freeing the tendon," and were destroyed to a different degree above and below the line of muscular action; they show, finally, that "simple tenotomy of the internus" is one of the most *un*simple of operations, and is rarely, if ever, justifiable.

Schweigger next calls attention to a group of cases where there exists "strabismus without diplopia." "This group differs from ordinary squint in the persistence of normal binocular vision." Here, again, Schweigger, clinging to the older methods of measuring squint, leaves us altogether in the dark in regard to the true state of muscular equilibrium of the eye muscles in the cases about which he is writing. Schweigger makes the statement that "the amount of deviation is not constant but varies, as can be proved by *repeated* measurements." Surely this allows of explanation—not, however, if only the external and internal recti are taken into account. Take, for example, certain cases of hyperphoria, and what do we find? We find marked *eso-*

phoria for *distance*, which esophoria will *become less and less* as we *approximate* to the patient our test light, until, *finally, the esophoria disappears;* a little nearer *exophoria* makes its appearance, and *increases* until the near limit for binocular fixation is reached. Surely this change is not to be attributed solely to the actions of the interni and externi. It is due to actions of the superior and inferior recti. *Exophoria*, under the vertical prism test, for 30 cm., seems to be the rule in the normal eye; and its explanation, it is not unlikely, must be sought in the fact that in close vision, *i. e.*, at reading distance, the eyes are not in a normal, but forced, condition.

In an uncivilized state mankind makes much less use of close vision than in the highly civilized. That in the latter binocular fixation for the purposes of close vision requires a marked effort on the part of external muscles of the eye, used in convergence, is readily shown by the vertical prism test, which, as we have just said, demonstrates, as a rule, the existence of exophoria. This exophoria, we may conjecture, and on very good grounds, results in part from the removal of the necessity for excessive exertion on the part of the superior recti, and may serve often as a hint to us in our determination in doubtful cases of the necessity for treatment to be applied directly to the superior recti.

Hence it becomes our duty, whenever we have under treatment a case of squint, to examine as carefully as possible the condition of the vertical as well as of the lateral equilibrium of the eyes. Doubtless there are cases where our tests can aid us but little in the determination of the condition of the vertical equilibrium. These are, however, the small exception.

Schweigger then objects to Horner's suggestion to measure the angle of squint with the perimeter. Here the squinting eye is placed in the center of the arc, and the fixing eye gazes at a distant object. A candle is then passed along the arc till its reflection falls exactly into the middle of the pupil of the squinting eye. The angle marked in the arc gives the angle of squint. The fact that the angle of squint va-

ries, as well as the difficulty of keeping the fixing eye steady, render the reports of cases measured by this method open to criticism. Again, this method does not measure the vertical deviation of the eye when it exists. In regard to Hirschberg's method, Schweigger rightly designates its results, "nothing but an off-hand guess." The v. Graefe method is also open to many objections. Few of the advocates of any of these methods have, we imagine, found the degree of ocular deviation, as given by these tests, anything approximating an accurate guide to the amount of operative interference necessary in any given case.

In reading Schweigger's article, the further we proceed the more clearly does it become evident the operator has been very well satisfied with results which are far from obtaining binocular fixation.

As we have said before, Schweigger's cases are in this article so imperfectly reported, that we can obtain no accurate idea in any one of them of the position of the eyes of the patients either before or after operation. It is a remarkable thing, that so many pages of the first ophthalmological journals of this country should be given to the reports of cases, and to comments on them, when both the reports and comments tend to render more confounded the old school confusion in regard to the proper methods of squint operation. Many of the observations made by Schweigger in the article we are considering, deserve notice only because of the high position held by the great German ophthalmologist. Such an article from a lesser teacher would find in America few to read it from beginning to end.

"In a majority of cases, periodic squint is removed by simple tenotomy." "Most of our operated cases disappear as soon as the eye ceases to be red, but I have succeeded in collecting a few cases of periodic squint, seen for nearly a year after the operation, and in these we see *the variations in the result of simple tenotomy.*" "*Some of these cases had a minute deviation, and others a deviation of 7 mm., and yet tenotomy had not done too much for the former or too tittle for the, at ter,* the explanation being that the maximum of deviation is rare, and that the cases, with but with slight deviation

could at other times squint to a greater degree." "The first necessity in periodic squint is tenotomy." "An imperfect result can be supplemented by tenotomy on the other eye." That in the majority of cases periodic squint is *not* removed by the so-called "simple tenotomy," or rather that it is at most imperfectly removed, we may justly infer from Schweigger's own reports of cases "seen nearly a year after the operation."

"From these we see the variations in the result of simple tenotomy," which has "not done too much for" "a minute deviation," "nor too little" "for others of 7 mm."!

[TO BE CONTINUED IN THE JULY NUMBER.]

A Note in Regard to the Transplantation of Skin.

There is one point in regard to the transplantation of pieces of skin which, although it may be widely practiced, has not received in medical writings the emphasis it deserves. *The piece of transplanted skin should not merely be laid upon the surface where it is expected to grow, but should be sewn there.* Where this has been done I have found that comparatively large pieces of skin—e. g., a piece three-quarters of an inch wide by one-and-a-quarter inch long, may be transplanted, and will unite as whole to surface beneath—provided, of course, that the surface upon which the transplanting is done is in a healthy condition.

Let us look for a moment at the following case:

Negro woman, aged 56, had an extensive burn of the forehead, destroying all of the skin containing the eyebrows, and leaving scar tissue up to and beyond the line of the hairy scalp. Ectropion of the upper lid resulted. A large Y, shaped flap, was made, and the lid in a great measure freed. An attempt was made to so loosen the skin adjacent to the lines of cutting as to close region thus made bare. So much skin had been destroyed by the burning as to render this impossible. Two pieces of skin, including its full thickness, were taken from the inner side of the forearm. One of the pieces measured $1\frac{1}{4}$ by $\frac{1}{2}$ inch; the other $\frac{3}{4}$ by $\frac{1}{2}$ inch. No special preparation of either the denuded area or of the pieces of skin to be transplanted was made. The proper areas over the forehead were selected, and *the pieces of skin were sewn in place*, numerous fine stitches being used. In the larger of the two pieces, besides being sewn all along its edges, the needle was passed through its centre into the raw

surface of the forehead beneath and again out through the transplanted skin. The whole of the areas operated on, including the surfaces of the transplanted pieces of skin and *the skin adjacent to the denuded region, were well greased with vaseline.* A moist bichloride dressing was then applied. It was removed after three days. The two pieces of skin were found to have adhered throughout their full extent, and although as time passed their superficial epidermal layers sloughed off, the flaps grew in the position into which they had been sewn, and accomplished the purpose for which they had been transplanted.

The above-described method is simple; its workings under fair conditions good. It does away with the necessity for a special bath in which to keep the removed piece of skin. The value of the stitches is evident when we consider how difficult it almost always is to keep a bandage from slipping within limits as the patient moves. The value of stitching the transplanted skin, then, lies in preventing motion. The use of sterilized vaseline in these cases is double—it protects the surface of the wound and its prevents adhesion between the wounded surfaces and the dressings.

In Case 2 we had to do with a symblepharon, which had resulted from neglected granular lids. Here, again, the skin to be transplanted was taken from the inner seat of the forearm, and, after the lid had been freed from the eyeball, was stitched in position, where, in spite of the large amount of secretion constantly furnished by the inflamed conjunctiva, it adhered and grew. In this case, however, owing to circumstances of the patient, but little was accomplished towards his relief. The transplanted piece of skin, however, found no difficulty in growing upon the surface to which it was held by several sutures.

The difficulty of securing small pieces of skin in position are slight, if we make use of a small pair of forceps while passing the needle through it.

Alas! for all the lovers bold, they know not what is best;
The young man reached the front door, the old man did the rest.

Department of General Surgery.

Conducted by STUART McGUIRE, M. D., RICHMOND, VA.
One of the Surgeons to St. Luke's Home for the Sick and the Virginia Hospital; Professor of Principles of Surgery in the University College of Medicine, Richmond, Va

Amputations Viewed from the Artificial Limb-Maker's Standpoint.

The *New York Medical Journal* for January 27, 1894, contains an excellent paper on "Amputations Prothetically Considered," by Mr. George E. Marks, member of the firm of A. A. Marks, of New York city. The writer calls attention to the importance of a knowledge on the part of the surgeon that will enable him to amputate with the view to giving a stump favorable to the application of an artificial limb. His paper is limited to the discussion of the lower limbs. The following are his conclusions, based upon an experience with 14,000 cases:

1. *Length of the stump.*—The longer the stump the better, provided it be "end bearing." Artificial limb-makers not many years ago, almost to a unit, decried the amputation of a leg below the junction of the lower and middle third, or "the point of election," so called, and were pronounced in their utterances against all ankle and partial foot amputations. To-day artificial legs are made that can be worn on stumps of any length—tibio-tarsal, medio-tarsal, and tarso-metatarsal not excepted.

In every partial foot amputation care should be exercised to prevent the contraction of the tendo achillis; usually lashing in a suitably contrived splint will suffice. If this means will not accomplish the object, either tenotomy or fixation of the ankle joint should be resorted to, for if the heel is allowed to draw up and the amputation surface point downwardly, the possessor of the stump will be obliged to have an artificial leg applied that will not touch, but that will shield the amputated surface; this means that the artificial leg will elongate that side and necessitate the wearing of a thick sole and heel on the shoe worn on the well or

companion foot. Such a stump ceases to be an end-bearing stump, and its disadvantages are apparent.

A stump extending below the knee is preferable to a stump extending to the knee, provided the stump is capable of flexion and extension. If the stump is disposed to become extended and ankylosed, it will be preferable to sacrifice the leg to the knee.

Any amputation below the knee should, as far as possible, be made with proper regard to the preservation of full knee mobility, and during the recuperative period the knee should occasionally be forced into action, so as to prevent impairment of the power of flexion and extension.

A stump extending to the knee is preferable to a shorter stump. The condyles and nodules of the femur should never be excised in knee disarticulations. The nodules afford means for securing an artificial leg, and the condyles and articular surfaces are better prepared by nature to endure pressure than the saw or knife can prepare them.

If the patella can be placed in the intercondylar space and properly secured, it is always desirable to do so.

2. *Flaps.*—All stumps should be provided with ample flaps. A redundance of tissue on the extremity of a stump is no advantage. The prime office of a flap is to protect the extremity of the bones, and they should be only ample to effectually perform that function. Periosteal flaps are desirable, as they give additional protection to the bones and prevent integumentary flaps from becoming adhered to the bones.

If an amputation is to be done below the middle third of the leg, bone should be sacrificed in order to obtain suitable flap. If the amputation is to be made above, the middle third, bone should not be sacrificed, even if transplantation is necessary in order to secure flap. Every inch of healthy bone above the middle third is desirable for leverage purposes. If a thigh amputation is to be done close to the knee, bone can be sacrificed in order to secure flap. The nearer the amputation is to be done to the body, the greater should be the care to save bone.

3. *The disposition of cicatrices.*—The rules established by all the accepted authorities on ankle and partial foot amputations should be rigorously observed. By so doing the disposition of cicatrices will be the most advantageous for prothetical purposes.

In all amputations of the leg and thigh, as well as knee disarticulations, the cicatrices should, as far as possible, be placed well away from the extremities of the bones and preferably along the posterior aspects. Contiguity or adhesion of the cicatrix with the extremity of a bone is frequently the cause of suffering.

4. *Treatment of stumps after they have become healed.*—A stump, before it is called upon to peform the functions of operating an artificial limb, is an inactive remnant of an active member of the body. On account of its inactivity, it becomes disposed to accumulate adipose tissue, and, if permitted to do so, it will become abnormally large and œdematous. If possible, this growth or condition should not be permitted. Usually tight bandages will prevent it. The bandages should be applied from the time the stump has healed until the artificial limb is applied. The bandages should be as tightly drawn as possible, and not interfere with circulation. The bandages should be applied in the usual way, beginning at the extremity of the stump, and continued the entire length of the complete section of the limb above the stump. This means, for a partial foot amputation, that the bandage should be carried to the knee, and for a leg amputation, that the bandage should be carried to the body.

It can be stated for a certainty that an artificial leg will harden, solidify, and diminish any stump. In consequence of this, it is desirable to keep the stump as small as possible, so as to minimize the changes that will follow the application and wearing of a leg.

5. *Time to apply an artificial leg.* It will be safe to apply an artificial leg to a stump, that has resulted from traumatic causes, as soon after the healing of the stump and the recovery of the patient to his normal vigor, as possible.

Nothing can be gained by waiting beyond that time. Waiting entails a loss of time and permits the stump to become enervated from disuse.

A stump that is the result of disease, especially if of a malignant nature, should be obliged to wait until there is a certainty that the pressure, confinement, and concussion that follows will not excite a recurrence of the disease.

A child that has lost a leg, is never too young to have an artificial leg applied. It should be observed that the tissues, bones, and articulations of an infant or a growing child must be forced into repeated action, in order to become developed, healthy, and vigorous.

To hobble about on one crutch, or a pair of crutches, for a number of years, is rather a severe and inhuman punishment to impose on a child because he is growing. An artificial leg of modern construction can be lengthened from time to time at a very slight expense, and as an artificial leg provides the nearest approach to a natural prop for the amputated side, it is the only means that will encourage healthful growth and symmetrical development.

Results of the Murphy Button.

The *London Lancet* for April 27, 1895, contains an analysis of the cases operated on with the "Murphy button" up to date, by John B. Murphy, A. M., M. D., of Chicago. Ninety-one cases of resection of the bowel, with end to end approximation, are reported, with fifteen deaths. Thirty-nine cases of cholecystenterostomies in non-malignant cases, with one death. Eight cases of cholecystenterostomies in malignant cases, with seven deaths. One case of gangrene of the gall-bladder, with fatal result. Twenty-eight cases of gastro-enterostomy, with eight deaths. A total of one hundred and sixty-seven cases, with thirty-two deaths, or a mortality of about 19 per cent. If we eliminate the operations for malignant disease, the mortality is reduced to about 15 per cent.

Unfortunately, the statistics are not entirely trustworthy, as many fatal cases have not been reported to either Dr.

Murphy or the journals, and hence are not embraced in the records; but still, the results of the use of the button are extremely gratifying.

At the close of the paper, the writer draws the following conclusions:

1. The cicatrix produced with the button does not contract.

2. Size No. 1, $\frac{3}{4}$ inch, or No. 2, $\frac{13}{16}$ inch, should be used for cholecystenterostomy. I prefer No. 2.

3. End to end, side to side, and end to side of the small intestine, should be made with button No. 3, $\frac{15}{16}$ inch in diameter.

4. End to end, and side to side, of large intestines, should be made with No. 4, one inch in diameter.

5. A special large size, $1\frac{1}{4}$ inch in diameter, with a long male cylinder, may be used in some cases of resection of the rectum, with advantage; but it should not be used unless it fits loosely.

6. In intestinal obstructions, resection with end to end gives better results than lateral approximation, and should always be performed when practicable. The same operation should always be done in gangrenous hernia. In fæcal fistula the bowel should be resected and united end to end.

7. The patients should receive liquid nourishment as soon as the effect of the anæsthetic passes off. The bowels should be made to move as soon as possible after the operation, and frequent evacuations kept up.

8. If the button does not pass in three or four weeks, the rectum should be examined, and it may rest just inside the sphincter.

9. There has been one case of reported occlusion of the button by fæcal impaction in the cylinder. This can be easily avoided by a mild cathartic immediately after the operation.

10. When returning the intestines to the abdomen, they should be placed in parallel lines, especially at the seat of approximation, to prevent sharp curves and obstruction.

This occurred once with the button; many are reported following suture.

11. There is no danger from obstruction from the button, as not a single case has been reported. This proves that the deductions made by Choper, of Paris, from experiments on the cadaver, are erroneous.

12. There is no danger of extension of the pressure atrophy beyond the line of pressure.

13. Primary adhesion may be hastened in malignant cases by abrading the peritoneum with a needle. It is unnecessary in non-malignant cases.

14. A supporting suture is never necessary to secure union, and should only be used to relieve tension when the viscera approximated are forced out of position.

15. The mucous membrane should be pushed down in the cup of the button before closing it; if redundant, it should be trimmed off with the scissors. It should never be allowed to protrude between the edges of the button when the button is closed.

16. While the button is easily inserted, the pathological condition requiring the operation may demand the greatest surgical skill to secure a favorable result.

17. The following points regarding the construction of the button should be noted before using it: (*a*) The spring-catches should hold firmly in all positions, and should be made of metal that will not corrode by acids. (*b*) The elastic pressure cup should be on the male half of the button; never on the female. (*c*) The edges of the pressure surfaces should be very smooth—hemispherical in shape. (*d*) The spring under the pressure cup should not be too strong. (*e*) There have been defective buttons on the market. The following firms are at present manufacturing perfect buttons: J. J. Ryan & Co., Chicago; Truax, Greene & Co., Chicago; Geo. Tiemann & Co., New York; W. F. Ford & Co., New York; Down Brothers, London, England; Sharp, Smith & Co., Chicago; Franz, Kratzmuller & Co., Chicago and Berlin.

18. If the button appears at the opening of the fistula, after lateral approximation, do not try to force it through the opening; it is unsurgical. Open the abdomen and (*a*) press the button back to the anastomotic opening and through the latter on down the intestine, and it will pass. Or (*b*) make a longitudinal incision into the bowel and take it out.

New Way of Treating the Stump in Operations for Appendicitis.

The *British Medical Journal* for April 20, 1895, contains a short article on the "Technique of Removal of the Vermiform Appendix," by Arthur E. Barker, F. R. C. S. It is a modification of the old method of stitching the serous coat over the stump of the appendix, after the amputation.

The writer says that some years ago he noticed, in removing the appendix, that the greatly thickened and sclerosed mucous and submucous coats were comparatively loose within the other outer coats of the process close to the cæcum, and that after circular division of the latter, could be drawn out of them to the extent of an inch or so in an unbroken tube. Noting this, he at once put in practice, in a modified form, the measure now to be briefly described.

In any case, when the appendix has been separated from its surroundings, its mesentery is first transfixed and tied in one or two parts with fine silk. The little mesentery is then cut with scissors up to the base of the appendix, close to the cæcum. Then, at about three-fourths of an inch from the latter, the serous and muscular coats are divided by a circular sweep of a sharp knife, leaving the mucous tube intact. The latter is now gently drawn out, and the two outer coats are stripped back towards the cæcum with a director, and turned over like the sleeve of a coat. In this way the tube of mucous membrane can be reached at its point of exit from the cæcum, and is tied with a fine silk ligature, and so closed. Then it is cut across an eighth of an inch beyond the ligature, and immediately retracts. The outer tube of serous and muscular tissue is now turned

down over the stump of the mucous coats, which has retracted towards the cæcum on being divided. This tube, formed of the outer coats, is then, instead of being stitched, simply surrounded with a fine silk or gut ligature, and closed over the mucous stump. Of course the serous surfaces are not by this means brought together; but this is not necessary, and perhaps not even desirable, as no firmer barrier to the prolapse of the mucous membrane could be made than by bringing the raw, inner, non-serous surfaces of the tube into contact.

This saves time, a matter of prime importance in all abdominal operations; and any surgeon who has done many operations for appendicitis will admit that where time is lost, it is in the preparation for, and carrying out of stitching, which, to be efficient, has to be neatly done, and often under great difficulties.

Officers-Elect of the Texas State Medical Association.

Dr. P. C. Coleman, of Colorado City, *President;* Drs. T. J. Wagley, of Cleburne; N. B. Kennedy, of Hillsboro; T. B. Bass, of Terrell, *Vice-Presidents;* Dr. H. A. West, of Galveston, *Secretary;* Dr. J. Larendon, of Houston, *Treasurer;* Dr. Irvine Pope, *Orator.* Place of meeting, April, 1899, Fort Worth.

Election of Officers Medical Association of State of Alabama.

President, Dr. W. H. Johnson, of Birmingham; Vice-President for the Southern Division, Dr. J. C. Kendrick, of Evergreen; Censors, Drs. Geo. A. Ketchum, of Mobile, and Charles Whelan, of Birmingham; Orator, Dr. E. L. Marechal, of Mobile; Alternate, Dr. R. S. Hill, of Montgomery. Place of meeting, 1896, Montgomery, April, 1896.

Officers-Elect of Georgia Medical Association.

President, Dr. Frank M. Ridley, of La Grange; first Vice-President, Dr. W. H. Doughty, of Augusta; second Vice-President, Dr. M. L. Boyd, of Savannah; Secretary, Dr. R. H. Taylor, of Griffin; Treasurer, Dr. E. C. Goodrich, of Augusta. The Association adjourned to meet in Augusta the third Wednesday in April, 1896.

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga.,
Lecturer on Dermatology, etc., in the Southern Medical College, Atlanta.

When May Gonorrhœics Marry?

Lowenhardt (*Jour. des Connaissances Medicales*) gives rules for the guidance of physicians consulted by blenorrhagics to gain consent to marry. As the virulence of the urethral secretion depends upon the presence of gonococci, the candidate for marriage should be subjected to repeated bacte riological examinations, carried out separately on the secretion of the anterior and of the posterior urethra. A slight secretion is not sufficient for this purpose, but the urethral mucosa must be irritated in such a manner as to place it in analogous condition (excess in baccho et venere) to those which light up an indolent case. The best means to obtain this result is to inject a few drops of a 1–5 per cent. solution of silver nitrate. If then the secretion contains no gonococci, but is strictly made up of spithelial cells, marriage can be permitted. The presence of numerous pus corpuscles necessitates renewed examinations and treatment of this pseudo-gonorrhœa. Lowenhardt insists upon the fact that the gonococcus is alone responsible for the virulence of the exudate and the serious results that follow inoculation with it in the genital apparatus of women.

This is a question of great moment and should receive very careful attention. I do not think that marriage should be allowed as long as there is any urethral discharge whatever, or as long as clap-flocks appear in the urine. The gonococci are perfectly capable of burrowing into the urethral gland and lacunæ and remaining there indefinitely, being always a source of danger and menace.

I do not believe with Lawson Tait that gonorrhœa is never cured, nor with Noeggerath as to the frequency of gonorrhœa in women, because clinical experience does not coincide with their views; but it is undoubtedly the fact

that chronic gonococcus-bearing urethritis is extremely stubborn and persistent and difficult to cure, and is capable of being transmitted to women and causing most serious complications long after an apparent cure. The following is an illustrative case:

J. B. contracted gonorrhœa in the fall of 1892. Discharge lasted for six weeks and then almost ceased. Drank champagne during Christmas holidays, and the discharge reappeared; continued for several months and then became scarcely more than a slight secretion, "goutte militaire." This kept up, sometimes slightly worse, sometimes disappearing altogether for eighteen months, when he married. Two months after marriage his wife had an attack of acute ovaritis and pelvic peritonitis, and came near losing her life, and did finally lose her ovaries. This man's urethral secretion was examined by me and found to contain gonococci in large numbers.

This case is one among thousands.

The gonococci are not difficult to demonstrate. A small quantity of the pus is smeared on a slide, or the lips of the meatus are separated, and a slide pressed against them. The pus is spread out in a very thin film, dried over an alcohol lamp, and a few drops of a methyl blue solution dropped on from the point of a glass rod. The slide is then washed with water and the specimen mounted in glycerine and examined with the oil-immersion. The gonococci are distinguished from the normal urethral micro-organisms by their coffee-bean shape and by the fact that they are not often single, very generally diplococci.

It is in the highest degree advisable that a microscopic examination—not one but many—be made of all cases and all grades of secretion before a cure is announced.

Cerebral Complications in the Course of Gonorrhœa.

Pitres (*Gaz. Hebdom. de Medicine*) observed two instances of the co-existence of acute urethritis and hemiplegia in two patients, one of whom at least was at an age and in a condition of health which rendered very difficult the explanation of hemiplegia from the usual causes.

1. L., 59 years of age, entered hospital with an acute ure-

thritis. Was attacked the same day with painful swelling of the wrist, elbow and knee-joints, which were red and tumefied. On the next day he suffered an apoplectic stroke. A month later, he developed epileptiform attacks of the Jacksonian type, and succumbed to this state of evil. The autopsy disclosed a wide area of cerebral softening, involving the Sylvian region of the left hemisphere, extending to the lateral ventricle and encroaching upon the internal capsule. The heart was normal.

2. A soldier, 24 years old, in the course of a recurrence of gonorrhœa was seized with slight dizziness, followed by hemiplegia, from which he recovered with a permanent but slight facial asymmetry, exaggerated tendon reflex and ankle clonus on the affected side.

Late Manifestations of Hereditary Syphilis.

(Haviland Hall, *Medical Society of London*). It is useful to know that hereditary syphilis may not manifest itself before a relatively advanced age. Spencer Watson has seen it appear at 20 and 30 years.

Hall reports the case of a lad of 16 who at 8 suffered for the first time with a fetid nasal discharge. He had been previously treated in an unascertained way. When he presented himself at Hall's clinic the septum nasi was destroyed and the bridge of the nose sunken in. Beyond this he presented no symptoms of syphilis hereditaria. Teeth were normal. It was found out that his mother had been treated for a tertiary syphilitic ulceration of the throat which was sufficient to establish the diagnosis.

The condition of the patient was much benefited by iodide treatment, but after some time he was lost sight of, and it was not until recently that he again applied for treatment. The disease had recurred. The hard palate was the seat of an extensive ulceration, and there was a mucous patch of large extent in the pharynx.

Attention was called to the very important practical fact that hereditary syphilis requires to be treated by mercury if one does not wish to see later on aggravated specific manifestations. It is true that the iodides effect a very marked amelioration of symptoms, but the course of the disease is not prevented by them, and mercury alone can protect the patient from recurrence.

Was This a Case of Early Fatal Cerebral Syphilis?

The following interesting case has recently come under my observation, and I regret not being able to give more minute and accurate details:

Mary Haloway; 17 years old; a negress; acquired a chancre in June, 1894. In September of the same year she applied to me for treatment of a small disseminated papular syphilide. The lesions were strikingly arranged in groups like herpes, some close together, others widely separated. She was in good general health, and amply able to fulfil the duties of her occupation, which was that of a chambermaid. She was given a pill of protoiodide of mercury, gr. $\frac{1}{5}$th, *t. i. d.* This dose was not increased, as it was sufficient to cause a disappearance of the eruption. She persisted in the treatment, taking the pills with commendable and increased regularity until April, 1895, when she presented herself at my clinic and stated that for two days she had been suffering from a violent headache. At that time her mind was clear, normal temperature, pupils normal, but the countenance was that of one in pain.

The next day word was sent that the girl was very ill. I was unable to see her, and so sent two young gentlemen from the dispensary—Drs. Brooks and Lofton. They found her in an apathetic condition, suffering from headache, difficult to arouse, answering questions slowly, but correctly. There was no paralysis. The apathy deepened into a stupor, and the same night she died—four days after the beginning of the cerebral symptoms. No *post mortem* could be obtained, and also no very accurate statement of her condition before death.

I am, therefore, unable to determine how far syphilis was accountable for her death, if at all. The case had been conservatively treated, and all cutaneous symptoms had disappeared, and there were no indications of nervous complication manifest before the appearance of the headache that rushed in the train of events terminating in death. If death was due to syphilis, it occurred just eleven months after the appearance of the initial sclerosis.

A full account of *nervous complications* of syphilis is given by Dr. Joseph Collins, in the May number of the *Journal of Cutaneous and Genito-Urinary Diseases*, in which it would appear that the instances are not uncommon, and that such

complications may occur quite early in the course of the disease.

Treatment of Impetigo Vulgaris vel Circinata.

Dr. Neebe, of Hamburg (*Monat. fuer prakt. Derm.*), recommends in impetigo vulgaris or circinata (impetigo contagiosa, impetiginous eczema) that as a preliminary to treatment, the scales and crusts be softened and washed off, the more adherent crusts being mechanically removed and the bleeding stopped by compresses. The surface is then energetically rubbed with a one per cent. sublimate solution. This treatment must be persisted in as long as there is new formation of pustules. The borders of the pustules must receive particular attention, for the disease spreads from this point. Two or three applications of the sublimate solution on successive days are necessary. If no new efflorescences appear, the pustules will heal rapidly under a zinc or boric acid salve.

Lycetol—The New Uric Acid Solvent,

Known chemically as di-methyl-piperazine-tartrate, described by Dr. Hermann Wittzack, of Frankfort-on-the-Main, Germany, is (according to *Ephem. Mat. Med., Phar. and Therap.*, Jan., 1895.) chiefly recommended for gout. Theoretically, it has the same solvent action on uric acid as piperazine; but the tartrate of the lycetol splits up into CO^2, which alkalinizes the blood and keeps uric acid in solution. It also produces diuresis, which hastens elimination. From 1.0 to 2.0 grams (15.4 to 31 grains) is the daily dose. The addition of sugar to a solution gives it an agreeable lemonade taste for continued use. It is said to break up the regular periodical attacks of gout, and does not produce disturbance in the general system.

The American Climatological Association

Is to be congratulated for selecting Hot Springs, Va., as the place for holding its meeting June 13–15. The Chesapeake and Ohio Railway always does its part handsomely. No finer trains pass over finer roads, through more beautiful mountainous country, than does this route. The Hot and the Warm Springs will this year be under one management.

Department of Electro-Therapeutics

Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va.

Treatment of Intestinal Obstructions by Electricity.

While almost any kind of electrical current may be used in intestinal occlusion (Traitment Electrique de l'Obstruction Intestinal, Dr. E. Doumer, *Archiv. d'Eelctricite Med.*, March, 1895), it is not rational in so serious a trouble to lose time in experimental attempts which may prove useless. It is our duty to proceed at once to employ the most certain and the most rapid mode. This will be found in galvanism, either by the per-cutaneous or the rectal method.

The application of per-cutaneous galvanism is very simple. Two well-moistened electrodes, six or eight inches in diameter, are applied to the abdominal walls, and a current of 15 to 20 milliamperes turned on and interrupted four times a minute. The electrodes should be slowly moved over the surface, particularly over the iliac fossæ.

If no considerable evacuation should follow two applications of ten to fifteen minutes each, from two to three hours apart, recourse must be had to intra-rectal galvanism.

This should be applied according to the method of Dr. Boudet, of Paris, which is as follows:

The intestinal electrode of Boudet should be attached to an irrigator containing saturated salt solution and introduced deeply into the rectum. A bed-pan should be placed under the patient. Upon the abdomen should be placed a large electrode well moistened with salt water. The rectal electrode should be made the positive pole. The stop-cock of the irrigator should be opened only enough to allow a very small stream to flow in, and when about one-half its contents have been introduced, turn on the current and gradually increase its intensity until the strength of 15 to 40 m. a., according to the nature of the case, is obtained. The flow from the irrigator should continue during the passage of the current which should be continued for five minutes. Next, turn off the current and reverse the pole

changer, making the intra-rectal electrode the negative pole and turn on again the current to its former intensity, making interruptions every 20 seconds.

Energetic contractions are quickly produced, and the obstruction loosened and started. When the patient can no longer resist the inclination to go to stool, which he will experience, remove the electrode, and the operation is complete. The effect will be completed by one or two large injections of salt water within the next twenty-four hours.

If contractions are not produced, continue the interruptions for ten minutes. Sometimes the overcoming of the obstruction is not effected until after the treatment and shows itself by colic-like pains. If there is no relief in two or three hours, give a second treatment, and if it should be necessary even a third.

Contra-Indications.—Do not use intra-intestinal galvanism:

1. If there is any reason to suppose the bowel is ulcerated.
2. In cases of long standing, in which the patients have been greatly weakened by previous attempts to relieve them.
3. When frequent doses of powerful purgatives have been tried.

In all cases, electricity should only be tried sufficiently early to admit of surgical intervention before it is too late in case of the failure of this treatment.

Writing on the same subject, Dr. Comte, of Geneva (*La Sem. Med.*, March 10, 1895), takes issue with Poupon, whom he quotes as saying: "If there is one method of treatment of intestinal occlusion which gives surprising results, it is electricity." Electricity, he thinks, cannot remove the obstruction in those cases in which it is due to constriction of the intestine. The good results claimed by Boudet and Larat were obtained in cases in which the obstruction was due to simple fæcal impaction, following paresis or paralysis of the bowel. In the treatment of such cases, he expresses the opinion that electricity is destined to play an important rôle. (*Archiv. d'Elec. Med.*, March, 1895.)

In this connection, we would call attention to our report in the May number of this *Monthly* of the good result ob-

tained by Althaus from the use of the primary induced current in two cases, and also to the article—Intestinal Occlusion, Treated by Electricity, by Larat, in the *International System of Electro-Therapeutics.* A detailed account of Boudet's method will be found in this article.

Treatment of Prolapsus of the Rectum by Galvanism.

Dr. R. B. Mitchell reports (*Lancet*, September 8, 1894,) three cases of this troublesome affection, which were relieved by the use of the continuous current. The intestine was first replaced within the sphincter (in one case this could only be accomplished by putting patient under the influence of chloroform); one pole, he does not state which, was then introduced within the sphincter and the other over the sacral region and the current passed for five minutes. Maximum strength of the current used is not given. One to two treatments a week were given. The results were very slowly obtained. The first case required four months of treatment before the bowel ceased to prolapse, but has since remained free from the trouble. In the second case, that of a woman with chronic mania, the protrusion being the size of a cricket-ball and intensely congested and bleeding, it required six months to bring about a like result. The third case was that of a man of 36, who had general paralysis with loss of strength and of co-ordination in the lower extremities and obstructed constipation. This patient required eight months of treatment. The great objection to the treatment is the length of time required, but it is possible that more frequent treatments would accomplish the result in a shorter time. He considers the treatment most suitable to cases in young children and the insane, in whom it would be difficult to keep the dressing in place after an operation. (*Archiv. d'Elec. Med.*, March, 1895.)

The Form of Electricity Best Adapted to the Relief of Pain.

Dr. A. D. Rockwell, in a clinical lecture (Neurasthenia *vs.* Lithæmia, *International Clinics*, Vol. III, 4th Series), says, in speaking of the treatment of a case of neurasthenia: "I soon found that general faradization was more serviceable in his case than any other method of application, and that the fa-

radic current of tension would relieve his pains when other forms of electricity failed."

In differentiating between the two forms of dynamic electricity for the relief of pain, I have often noticed that when the parts were sensitive to pressure the galvanic current was the most effetive, and when pressure was grateful and afforded relief the faradic current seemed to be indicated. In this case the harder the pressure the greater the relief to the head pain, and during the paroxysms of pain it was possible to apply a strength of current (faradic) over the whole surface of the head that was absolutely unbearable when the paroxysm had passed away. The relief these strong currents afforded was very great.

The National Association of Railway Surgeons

Held its Eighth Annual Session in Chicago May 1–3. The harmony, benefit and success of the session were marked features. About 800 members were present—a most gratifying assurance of the stability of the Association. The railway companies generally were well-represented, and the courtesies of their managements were most complimentary. A most excellent feature adopted by this Association is the limit of ten minutes to the remarks of the one who opens a discussion, and of five minutes to all others. This enables those who wish to take part an opportunity to do so. Dr. Thorn presided well, and during the year ended, his influence for good has been felt. His successor as President, Dr. J. B. Murphy, of Chicago, is known the world over as the author of the "Murphy Button." Men of such national and international fame as these, and Drs. W. B. Outten, of St. Louis; J. B. Murdock, of Pittsburgh; C. W. P. Brock, of Richmond; W. B. Rogers, of Memphis; E. R. Lewis, of Kansas City, etc., gave to the discussions their special interest. The clinic of four hours by Dr. N. Senn, in which about thirty or more patients were attended—including operations, was a marvel of success. Dr. Murphy's clinics was also compensative to the doctor from the remotest end of the continent—if he had gone to Chicago for no other purpose than to see Dr. Murphy's clinic. The next Annual Meeting will be in Cincinnati. If it proves half as profitable as the Chicago session, it will be a great success; but the able men who have taken charge of the next meeting warrant the hope that it will be altogether as important a session.

Proceedings of Societies, Boards, etc.

MEDICAL EXAMINING BOARD OF VIRGINIA.

This was the first Examining Session of the new Medical Examing Board of Virginia. It will be recalled that during the last session of the General Assembly of Virginia, the law relating to the Board was so modified as to reduce the number of members to one regular practitioner from each of the ten Congressional Districts of the State and and two from the State-at-large—all nominated by the Medical Society of Virginia, and commissioned by the Governor of the Commonwealth. In like manner, the number of Homœopathic members of the Board was reduced to two from the State-at-large. All members of the Board (except Dr. Brady) were present during the session. The meeting for routine work was called to order by the President, Rawley W. Martin, of Lynchburg, Va., Tuesday night, May 7th, at 8 o'clock, in the Honse of Delegates, Richmond, Va. The Secretary, etc., Dr. Benj. Harrison, of Richmond, was present.

The next meeting for examining applicants is announced in the advertisement, page 34.

Examinations held May 8th and 9th 1895.

I.—Section on Chemistry.

Wednesday, 9 A. M. to 12 M.)

Dr. R. M. Slaughter, Theological Seminary, Va., Chairman.

Ques. 1. (a) Name the more important metals of the alkalies.
(b) Mention their common characteristics, and (c) state their equivalency.
(d) Name the official salts of lithium.
(e) State why alkalies are indicated in gouty or lithæmic conditions.

Ques. 2. (a) Give technical name, (b) empirical and graphic formulæ of the simplest of the saturated hydro carbons.
(c) In what form and where does it most commonly occur in nature?
(d) It is an important constituent of what illuminating agent?

(e) Name and give formulæ of the two triatomic haloid compounds of this hydro-carbon which are important articles of materia medica.

Ques. 3. (a) Give the principal points of the chemistry of phenol.

(b) What are its chief uses, as an article of the materia medica?

(c) Give its antidotes.

Ques. 4. (a) What are carbo-hydrates?

(b) Name the (3) principal groups and some members of each.

(c) When starch is boiled with dilute acids what occurs?

(d) Give the technical name of animal starch.

(e) State to which group it belongs; (f) where it is found; (g) from what derived; (h) and what its supposed use in the animal economy.

Ques. 5. (a) State what is meant by chemical incompatibility in prescription compounding.

(b) What would be the result of combining strychnine sulphate and potassium bromide in solution?

(c) What might be the result of mixing in a dry state potassium chlorate and tannin?

(d) What would be the danger in giving in combination potassium chlorate and syrup of the iodide of iron?

(e) Why is a tannate a chemical antidote in poisoning by alkaloids?

Ques. 6. (a) Given a specimen of turbid urine, the turbidity being known to be due to (b) urates, (c) phosphates or (d) pus—how would you determine to which it is due?

(e) In alkaline fermentation of urine what are the ferments producing it?

(f) To what is the alkalinity due?

(g) What characteristic crystals are found in the precipitate?

II.—Section on Anatomy.

(12 M. to 3 P. M.)

Dr. Benj. Harrison, Richmond, Va., Chairman.

Ques. 1. Describe the mediastinum; giving its subdivisions, their boundaries, and contents of each.

Ques. 2. Give the vascular and nerve supply of the stomach and larynx.

Ques. 3. Describe the ankle joint; state the kind of joint it is; name the bones and ligaments entering into its formation, and give its nerve and vascular supply.

Ques. 4. Describe the inguinal canal.

Ques. 5. Describe the aorta; giving a description of its subdivisions, their course and branches.

Ques. 6. Describe the small intestine; giving its origin, length, course, termination and subdivision; state how it is suspended; name its glands and give its vascular supply.

III.—Section on (I.) Hygiene and (II.) Medical Jurisprudence.

(4 P. M. to 7 P. M.)

Dr. J. E. Chancellor, University Station, Charlottesville, Va., Chairman of Section.

I.—Hygiene.

Ques. 1. Give the composition of atmospheric air; the impurities sometimes present, and the diseases induced by such impurities.

Ques. 2. State the more important points in prison hygiene in reference to building (location and construction); the classification and management of patients, male and female.

Ques. 3. State the hygienic advantages of physical culture or training, and the effects of over-exertion on the organs most likely to suffer.

Ques. 4. What is meant by disinfection? How divided? In what diseases especially indicated? How applied to the sick, the attendant's clothing and room of patient?

II.—Medical Jurisprudence

Ques. 1. Give the symptoms and post-mortem appearance in case of poisoning by corrosive sublimate and the circumstances that influence the activity of a poison.

Ques. 2. Describe the principal characteristics of the two types of insanity—melancholia and mania.

IV.—Section on Physiology.

(8 P. M. to 11 P.)

Dr. R. S. Martin, Stuart, Va., Chairman.

Ques. 1. What is the origin of red blood corpuscles, and where destroyed? How do white corpuscles get through the walls of blood vessels? Give the uses of blood.

Ques. 2. Give the function of gastric and intestinal juices, serous secretion, spleen and red marrow of bone.

Ques. 3. Define destructive and constructive metabolism. State where glycogen is made and from what. Is it more like a starch or a sugar?

Ques. 4. Give functions and mention parts supplied by the pneumogastric, or tenth nerve.

Ques. 5. Mention the special centres for reflex action. Also the special centres located in the spinal cord.

Ques. 6. Explain the bacteriological diagnosis of tuberculosis.

V.—Section on Materia Medica and Therapeutics.

(Thursday, 9 A. M. to 12 M.)

Dr. A. S. Priddy, Keysville, Va., Chairman.

[Dr. M. E. Douglas, of Danville, Va., represented the Homœopathic School on this Seciion.]

Ques. 1. Name five principal officinal preparations of opium and state the dose of each. Give the classical indications for the use of opium.

Ques. 2. Give the source, physiological action, dose and antidote for cocaine.

Ques. 3. Criticise the following:

℞.—Sodii chloridi..... grs. xxx
Liq. pot. arsen.....ʒj.
Quiniæ sulp..... grs. xij
Ferrum dialys.....ʒj
Aq. menth pip., q. s..ʒiij
M. Sig.: Teaspoonful t. i. d.

℞.—Opii ext. aq..... grs. x
Argenti nit.....grs. xx
M. Ft. pil. No. x. Sig: Take as directed.

℞.—Pot. permang.
Zingiber pulv.....āā grs. xij
Pepsin, pulv.....grs. xxv
M. Ft. caps No. xij. Sig: One after eating.

Ques. 4. Give dose of strychnia sulphate, atropia sulphate, arsenous acid, hydrargyrum chloridum corrosivum, tincture of aconite, fluid extract of digitalis, oleum tiglii, ammonia carbonate.

Ques. 5. Name the principal vaso dilators and principal vaso constrictors.

Ques. 6. Classify, according to physiological action of each, cascara sagrada, apomorphine, acetanilid, buchu, jaborandi, nux vomica, eserine, valerian, cantharides.

Ques. 7. How do bromides act as hypnotics? Describe the condition known as "bromism."

Ques. 8. Give four classes of diuretics, and an example of each class.

VI.—Section on Obstetrics and Gynæcology.

(12 M. to 3 P. M.)

Dr. Herbert M. Nash, Norfolk, Va., Chairman.
Dr. H. M. Patterson, Staunton, Va.
Dr. M. E. Douglas, of Danville, Va., represented the Homœopathic School.

Ques. 1. Enumerate the special disorders of the circulatory, digestive, nervous, urinary, and locomotive systems, incident to pregnancy; and give the presumptive and positive signs of pregnancy.

Ques. 2. Define presentations and positions, naming the unnatural presentations, and classifying the positions.

Ques. 3. What are the advantages of an early diagnosis in obstetric cases, and the methods of determining the presentations and positions of the fœtus.

Ques. 4. What abnormal positions or conformations of the fœtus may render a labor difficult?

Ques. 5. Give the most approved treatment of threatened, and also of inevitable, abortion.

Ques. 6. Give the diagnosis, varieties, and operative treatment of extra uterine pregnancy.

VII.—Section on Practice of Medicine.

(4 P. M. to 7 P. M.)

Dr. Rawley W. Martin, Lynchburg, Va., Chairman.

Dr. L. S. Foster, Mathew C. H., Va.

Dr. Noah Jackson, Fentress, Va., represented the Homœopathic School.

Ques. 1. State the causes of the following diseases, and explain, as far as possible, the action of each cause: (*a*) Chronic bronchitis; (*b*) Dilatation of stomach.

Ques. 2. Describe the secondary changes which may occur in tubercle, and state the terminations of tuberculosis.

Ques. 3. Describe the morbid anatomy of chronic intestinal catarrh.

Ques. 4. Describe morbid anatomy of chronic alcoholism.

Ques. 5. State the symptoms of pericarditis (including physical signs), and explain how these symptoms are produced.

Ques. 6. State the grounds of the constructive diagnosis of acute articular rheumatism.

Ques. 7. State the indications of treatment of (*a*) valvular disease of the heart when compensation has failed; (*b*) of acute dysentery.

Ques. 8. Define presystolic, systolic, and diastolic murmurs, and give their distinct characteristics.

VIII.—Section on Surgery.

(8 P. M. to 11 P. M.)

Dr. John W. Dillard, of Lynchburg, Va., Chairman.

Dr. S. W. Budd, Petersburg, Va.

Dr. Noah Jackson, of Fentress, Va., represented the Homœopathic School.

Ques. 1. Define an aneurism, and give the symptoms, diagnosis, and treatment of the same.

Ques. 2. Give the varieties of fracture of the skull, and symptoms indicating the use of the trephine.

Ques. 3. Give the definition, symptoms, and treatment of pyæmia.

Ques. 4. Describe ligation of the brachial artery, giving the several guides to it, and its collateral circulation.

Ques. 5. Give the causes and symptoms of stone in the bladder.

Ques. 6. Describe minutely the operation for *double* hair lip.

Alphabetically Arranged List of the Applicants to Whom Licenses were Granted to Practice Medicine in Virginia, After Due Examination May 8th and 9th, 1895, with their Postoffices and Colleges of Graduation.

Adams, W. J., Marine Hospital, New Orleans, La., Med. Col. Va.
Alston, J. H., Townsville, N. C., Univ. of Va.
Aylett, Wm. R., University Station, Charlottesville, Va., Univ. of Va.
Baptist, —— ——, Lewiston, Va., Non-Graduate.
Boswell, A. W., Falls Church, Va., Columbia Med. Col.
Brandt, C. N., Hot Springs, Va., Col. Phys. & Surg., N. Y.
Brown, Israel. Norfolk, Va., S. C. Med. Col.
Browning, E. R., Flint Hill, Va. Univ. of Md.
Bruin, M. R., Univ. Md. Hosp., Baltimore, Md., Univ. of Md.
Burgess, R. U., Ivor, Va., Med, Col. Va.
Burwell, W. W., Burk's Fork, Va., Med Col. Va.
Clore, J. N., St. Vincent's Hosp., Norfolk, Va., Med. Col. Va.
Cockrell, L. E., Reedsville, Va., Univ. of Md.
Corss, J. K., Newport News, Va., Univ. of Pa.
Cox, J. Edward, Richmond, Va., Med. Col. Va
Davis, R. T., Loretta, Va., Univ. Col. Med., Richmond.
Dobyns, B. S., Floyd, Va., Univ Col. Med., Richmond.
Fair, M. A., Seitzland, Va., So. Hom. Col., Balt.
Fields, Alpheus, Gilmerton, Va., Jeff. Med. Col.
Elliott, P. B., Floyd, Va., Col. Phys. & Surg., Balt.
Granger, W. R., Newport News, Va. Univ. of Vt.
Harrison, I. C., Univ. Station, Charlottesville, Va., Univ. of Va
Hartsook, N. E., Mason's Store, Va., Med. Col Va.
Henderson J. M., Bridgetown, Va., Med. Col. Va.
High, L. F., Harmony, Va., Col. Phys. & Surg., Balt.
Hubbard, B. H. B., Univ. Md. Hosp., Baltimore, Univ. of Md.
Hurt, A. J., Ballsville, Va., Tenn. Med. Col.
Irvin, J. S., Danville, Va., Univ. of Va.
James, L., Richmond, Va., Med. Col. of Va.
Jones, Clarence P., Loch Leven, Va., Univ. Col. Med.
Keck, J. E., Richmond, Va., Med. Col. Va.
Kemper, A. S., Port Republic, Va., Univ. Col. Med., Richmond.
Labenburg, Chas. N., Richmond, Va., Non-Graduate.
Luxford, T. B., Richmond, Va., Med. Col. Va.
McCutchen, B. B., Moffett's Creek, Va., Univ. Col. Med., Richmond.
Mann, D. M., Petersburg, Va., Med. Col. Va.
Martin, A. L., Elk Creek, Va., Med. Col. Va.
Merritt, D. T., South Boston, Va., Non-Graduate.
Miller, J. T., Alexandria; Va., Univ. of Va.
Odendhall, E. P., Norfolk, Va., Univ. of Md.
Nichols, R. A., Richmond, Va., Med. Col. Va.
Nichols, W. B., Richmond, Va., Med. Col. Va.
Peery, T. E., Burk's Garden, Va., Col. Phys. & Surg., Balt.
Randley, W. W., Stuart, Va., Non-Graduate
Redd, J. T., Barton Heights, Va., Med. Col. Va.
Repass, T. W., Richmond, Va., Med. Col. Va.
Rhudy, W. W., Elk Creek, Va., Med. Col. Va.
Runyon, E. C., Richmond, Va., Woman's Col., N'thwest'n Univ., Chicago.
Stevenson, H. W., Berlin, Va., Med. Col. Va.
Stultz, P. H., Martinsville, Va., C. I. Phys. & Surg., Balt.
Tarter, J. W., Rural Retreat, Va., Col. Phys. & Surg., Balt.
Taylor, J. S., New York, N. Y., Univ of Va.
Ward, N. G., Belvedere, N. C., Jeff. Med. Col.
Ware, R. B., Narseal, Va., Med, Col. Va.
Wiley, R. M., Salem, Va., Med. Col. Va.
Wilson, N. G., Norfolk, Va., Univ. of Md.

INSTITUTIONS REPRESENTED BY THE APPLICANTS

BEFORE THE

MEDICAL EXAMINING BOARD OF VIRGINIA,

FROM THE ORGANIZATION OF THE BOARD,

Jan'y 1st, 1885, to October, 1894.

	Total Number from each Institution.	Total Number Licensed First Exam	Total Number Rejected First Exam.	Licensed on Second Examination.	Rejected Second Examination.	Licensed Third Examination.	Rejected Third Examination.	Incomplete or Withdrew.
Medical College of Virginia	163	134	23	1	1	1	...	6
University of Virginia—Medical Department	98	97	1	...	....	.....	...	....
University College of Medicine, Richmond	8	7	1	....	....	....	....	....
Balto Med. Col. and Univ. Col. of Med., Richmond	2	2	...	....	....	....	....	....
College of Physicians and Surgeons, Baltimore	109	83	23	....	3	1	...	3
University of Maryland	124	93	30	....	5	....	....	1
Baltimore Medical College	25	7	16	1	4	....	2	2
Baltimore University	7	...	7	....	2	..	.....	....
Washington University, Baltimore, (Extinct.)	1	....	....	....	....	.....	..	1
National Medical College, Washington, D. C.	1	....	1	.....	....	....	....	....
University of Georgetown, D. C., Medical Department	2	1	1	...	....	.....	....	....
Howard Univ., Med Dept., Washington, D. C.	21	5	16	....	.. ..	1	.....	....
University of Maryland and Baltimore Medical Coll.	1	.....	1	....	.....	....	....	....
Georgetown College, Washington, D C.	1	....	1	....	....	.....	....	....
Jefferson Medical College	34	24	9	2	.....	.....	....	1
Jefferson Medical College and University of Virginia.	1	1	....	....	....	....	....	....
University of Pennsylvania—Medical Department	9	9	....	..	....	....	....	...
Medico-Chirurgical College of Philadelphia	1	....	1	....	1	.....	1	.....
Medical College of Philadelphia	1	.....	1	....	....	....	.....	....
Woman's Medical College of Pennsylvania	2	2	.....	....	....	....	....	.....
Hahnemann Med. Coll and Hosp. (Homœop.), Phila.	4	3	1	...	....	.....	....	.....
University of the City of New York—Medical Dept.	25	17	8	..	....	...	....	.....
University of New York	1	.....	1	...	....	....	....	....
University of Virginia and New York	1	1	.....	..	....	....	....	.....
Bellevue Hospital Medical College, New York	16	15	1	1	....	....	.....	....
University of Va. and Bellevue Hospital Medical Coll.	1	1	....	..	....	.....	....	....
College of Physicians and Surgeons, New York	10	9	1	1	....	...	....	....
Geneva Medical College, New York (extinct)	1	1	....	.....	.....	....	....	....
Coll. Phys and Surg., New York, and Univ. of Va.	1	1	.....	....	....	....	....	....
Long Island College Hospital, Brooklyn	1	....	1	....	....	.....	...	....
Yale Medical School, New Haven	1	1	....	.....	....	....	....	....
University of Vermont, Burlington	4	2	2	...	....	.....	...	....
Miami Medical College, Cincinnati	2	2	....	.....	....	....	....	..
Columbus Medical College	3	2	1	1	...	.....	....	....
Homœopathic Hospital College, Cleveland	2	2	....	....	.....	....	...	....
Pulte Medical College, Cincinnati (Homœopathic)	1	1	....	....	....	....	....	....
Louisville Medical College	13	6	7	2	....	.....	....	....
University of Louisville—Medical Department	14	9	5	...	.....	....	....	....
Kentucky School of Medicine, Louisville	7	6	1	..	....	...	....	....
Hospital Medical College, Louisville	7	4	3	1	....	.....	...	.....
Vanderbilt University, Nashville	5	4	1	.....	....	....	.....	...
University of Tennessee, Nashville	2	2	....	....	...	....	...	.. .
University of the South, Sewanee, Tenn.	1	. ..	1	....	....	....	.....	.....
Leonard Medical College, Raleigh (Colored)	17	13	4	.....	....	....	....	.....
Medical College of State of South Carolina, Charleston	3	2	1	1	...	...	....	.....
Southern Medical College Atlanta	3	1	2	....	....	....	....	....
Atlanta Medical College	1	....	1	....	....	....	....	....
Tulane University—Medical Dept—New Orleans	2	2	....	....	.....	....	.....	....
University of Louisiana (probably Tulane University)	1	1	.....	....	....	....	....	....
Medical College of St. Louis (Extinct)	1	1	....	....	....	....	....	....
St. Louis Medical College, Missouri	1	1	....	.....	....	....	....	....
Detroit Medical College, Michigan	2	1	1	1	....	.. .	...	....
University of Michigan—Medical Dept., Ann Arbor	4	4	....	....	.....	....	....	....
Michigan College of Medicine and Surgery, Detroit	3	2	1	....	.....	....	....	.....
Chicago Homœopathic Medical College	1	1	....	....	....	.....	....	....
Hannemann Medical College and Hospital, Chicago	1	1	.....	....	....	...	...	....
University of Heidelburg, Germany	1	1	.....	....	....	.....	.....	....
St. George's Hospital, London	2	1	1	..	....	...	....	....
King College, London	1	....	1	....	...	...	....	....
Tennessee Medical College, Knoxville	2	.....	2	1	....	1	1	....
Chattanooga Medical College	1	....	1	.....	1	...	1	. ..
Western Reserve Medical College, Cleveland	1	1	....	....	....	.. .	.....	....
Rush Medical College, Chicago	2	2	...	....	....	....	...	.....
National University of Ohio	1	1	....	...	....	....	...	....
Eclectic School, Cincinnati	2	....	2	....	....	....	...	.....
Cincinnati Medical College	2	1	1	....	...	....	.....	....
Southern Homœopathic Medical College, Baltimore	4	2	2	....	....	....	....	
Woman's Medical College, Chicago	1	1	....	....	....	....	...	....
Columbian College	1	1	....	....	....	....	....	....
Jeff. Med. College, Phila., and Baltimore Med Coll.	1	....	1	...	.....	....	.....	....
Harvard Medical College	1	....	1	....	....	.....	.....	....
Colleges unknown	7	4	2	...	....	....	.....	1
Non-Graduates	83	27	50	....	....	....	....	6
Totals	887	626	240	13	17	6	5	21

Nos. of examination papers.	List of Institutions Whose Graduates were Rejected by the Med. Exam. Board of Va., at its Regular Spring Meeting, May, 1895, With Percentage Marks received in each Section. College of Graduation.	Chemistry.	Anatomy.	Physiology.	Hygiene and Med. Jurisprudence.	Materia Medica and Therapeutics.	Obstetrics	Practice.	Surgery.	Total.	Average percentage	Remarks.
4	Non-Graduate	38	70	90	66	83	82	85	78	592	74	.....
5	University of Louisville	40	70	80	66	85	72	75	75	563	70	.....
6	University of Louisville	15	48	70	66	88	82	90	60	519	65	.....
7	Jeff. Med. College, Phila	22	33	70	68	85	72	70	75	495	62	.....
21	Non-Graduate	38	60	78	73	79	50	59	65	502	63	.....
24	Leonard Med Coll., Raleigh (Colored)	20	67	95	83	75	50	58	80	532	67	.....
25	Univ. Coll. Med. Richmond	56	50	74	82	89	83	77	76	587	73	.....
22	Non-Graduate	25	65	80	65	90	60	68	55	508	63.5	.....
26	Medical College of Virginia	27	80	74	67	94	80	78	80	580	72.5	.....
34	Baltimore Medical College	37	60	65	67	90	80	81	75	551	69	.....
35	College Phys & Surg, Balt	27.5	70	85	72	92	79	65	43	534	67	.....
36	College Phys. & Surg, Balt	21	43	70	71	91	85	60	77	518	65	.....
47	Non-Graduate	26.5	40	69	36	85	34	68	45	404	50.5	.....
51	Univ. of Vermon, Burlingt'n	45	70	90	89	78	75	70	75	592	74	.....
52	Non-Graduate	48	32	80	75	78	82	79	75	549	69	.....
53	Elec. Coll. Med. & Surgery, Atlanta, Ga	25	50	70	48	79	73	65	32	444	55.5	.....
57	Harvard Med. Coll., Boston	33.4	50	75	56	79	75	79	65	513	65	.....
60	Non-Graduate	35	50	75	69	40	61	60	65	455	57	.....
61	Non-Graduate	30	60	90	85	79	78	75	90	587	73	.....
62	Howard Univ., Med. Dept., Washington	18	53	65	45	80	75	69	75	480	60	.....
63	Baltimore Medical College	33.4	55	70	58	77	71	70	17	451	56	.....
64	Baltimore Medical College	14	33.4	79	51	80	75	50	27	409	51	.....
66	Medical College of Virginia	55	79	64	62	85	72	76	80	573	72	.....
68	Non-Graduate	18	35	78	35	96	73	70	75	480	60	.....
70	Medical College of Virginia	52	60	75	35	92	70	67	85	536	67	.....
72	Non-Graduate	25	68	70	33.4	93	72	82	75	518	65	.....
73	South. Homœop. Coll., Balt	36	43	64	59	98	96	9404	92.4	582	73	.....
75	South. Homœop Coll, Balt	36	37	55	35	97.5	96.5	97.6	96.8	552	69	.....
76	Jeff. Med. Coll., Phila., and Balt. Med. College	33.4	75	65	75	92	75	95	61	571	71	.....
77	Baltimore Medical College	29	70	90	73	90	75	77	75	579	·72	.....
81	Leonard Med. Coll., Raleigh, (Colored)	51	74	78	76	86	75	84	55	579	72	.....
83	Leonard Med. Coll., Raleigh (Colored)	34	64	81	67	86	75	52	59	518	65	.....
87	Univ. of Maryland, Balt	53	65	85	82	84	75	60	85	589	74	.....
90	Univ. of Maryland, Balt	43	60	71	77	85	75	60	86	557	70	.....
91	Non-Graduate	22	63	60	65	77	70	67	75	494	62	.....
92	Medical College of Virginia	29	68	62	66	85	74	78	90	552	69	.....
93	Tennessee Medical College	34	65	85	61	78	75	70	35	303	63	.....
94	Non Graduate	33.5	73	95	75	....	...	.....	....	.....	.....	Withdr'w
95	Medical College of Virginia	5	10	40	25	90	62.5	63	75	377	46	.....

Institutions Represented by the Applicants who came before the Medical Examining Board of Virginia, In Session at Richmond, Va., May 8th and 9th, 1895.	Total Number Applicants from each College.	Total number Applicants Licensed from each College.	Total Number Applicants Rejected from each College.	Withdrawals.
Medical College of Virginia, Richmond	25	20	5	.....
University of Virginia, Charlottesville	6	6	.....	.....
University College of Medicine, Richmond	6	5	1	.....
University of Maryland, Baltimore	8	6	2	.....
College Physicians and Surgeons, Baltimore	7	5	2	.....
Baltimore Medical College	4	.....	4	.....
Baltimore Med. College and Jefferson Med. College	1	.....	1	.....
Jefferson Medical College, Philadelphia	3	2	1	.....
University of Pennsylvania, Philadelphia	1	1	.....	.....
College of Physicians and Surgeons, New York	1	1	.....	.....
Columbia Medical College	1	1	.....	.....
Harvard Medical School, Boston	1	.....	1	.....
University of Vermont, Burlington	2	1	1	.....
University of Louisville	2	.....	2	.....
Tennessee Medical College, Knoxville	2	1	1	.....
Medical College of State of South Carolina, Charleston	1	1	.....	.....
Southern Homœopathic Medical College, Baltimore	3	1	2	.....
Eclectic College of Medicine and Surgery, Atlanta	1	.....	1	.....
Woman's Medical College, Northwest Univ., Chicago	1	1	.....	.....
Howard University, Medical Dept., Washington, D. C.	1	.....	1	.....
Leonard Medical College, Raleigh, N. C. (colored)	3	.....	3	.....
Non-Graduates	15	4	10	1
	95	56	38	1

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

[*March* 11*th*, 1895.]

Reported by Llewellyn Eliot, M. D.

Dr. I. S. Stone read a paper on—

Appendicitis. [See page 261.]

Dr. Carr opened the discussion. All cases of recurring appendicitis, and all cases which have perforated, should be operated upon. The question is, When to operate? Mild cases may progress favorably, and may not recur; it is not right to submit these to an operation. Had seen cases recover even when a tumor had developed. The best guides are as given in Moulin's Surgery. When a case begins intense, with high fever, much pain and vomiting, we should operate; in all milder cases, we should wait. Surgeons should refuse to operate when there is a general peritonitis; life is not saved and surgery discredited.

Dr. E. L. Morgan spoke of the unreliability of any certain symptoms. A nervous woman may have a very high

fever from a slight intestinal catarrh. Neither is McBurney's point always infallible. He related a case in which he supposed flexure of the descending colon; there was some swelling over the left side of the abdomen for several days; then all the subjective symptoms shifted to the right side. There was pain and tenderness on pressure; fever and constipation. Two consultants diagnosed appendicitis by inference. The *post-mortem showed a cancer of the liver*, and a constriction of the descending colon, the right side being perfectly healthy.

Dr. Carr.—Such cases are exceptional. Usually, the diagnosis is easy and certain, and the trouble is to tell the outcome—is it going to be a mild or a severe case, does it require operation at once or not?

Dr. Kober.—The operation should not be delayed too long. A little girl who had been treated five or six days for catarrh of the appendix progressed so that she was allowed to go about. Next day saw her in consultation. Symptoms were violent—high fever, vomiting, weak, and rapid pulse suggestive of perforation. Died in 8 hours. *Post-mortem* showed a circumscribed abscess had burst into the peritoneum—there was a bean in the appendix.

Another case had been treated in a hospital so as to go home by rail and stage journey; was taken ill on the way, and an abscess was opened in the lumbar region. Three weeks later, the abscess pointed to Poupart's ligament —was opened and drained. Died two weeks later from exhaustion, but the abscess cavity was found free and healing. In this case there was a large fecal concretion.

Does not pay much attention to the fever, but looks upon vomiting as a serious symptom. Considers the expression of the face and character of the pulse important symptoms. The temperature may be sub-normal when the conditions are the gravest.

Dr. Bovee agreed with Dr. Stone, that in sub-peritoneal abscess we should simply drain and leave the appendix. The patient has a better chance than if too much is done; then the pus may enter the peritoneal cavity. The occurrence of vomiting is not a sign to operate, as this is a common symptom. Wait until a tumor is detected unless symptoms are extra urgent.

Dr. T. V. Hammond questions the advisability of operating between the attacks. The trouble may not recur if left alone.

Dr. Stone held that the existing causes and sequelæ re-

main after the attack, and the operation is not as dangerous as a recurrence.

Dr. W. P. CARR read a paper on—

The Sterilization of Milk. [See page 281.]

DISCUSSION.—Dr. KOBER.—Epidemics of contagious diseases are spread by milk—typhoid, scarlet fever, diphtheria, etc. This calls for sterilization of milk, but the nutritive qualities in devitalized milk are not as good as raw milk. Something must be done to give us a pure milk that will not need sterilization.

Dr. VINCENT.—In St. Anne's Infant Asylum, the milk is sterilized, but the scorbutic conditions described have not been noticed, though all the weakly babies are wet-nursed.

Dr. STONE.—Having a healthy child and pure milk, what is the use of general sterilization? Rare cases like those reported can be attributed to idiosyncrasies, just as some people cannot eat eggs or other usual kinds of food.

Dr. CARRAHER spoke of the superior advantages of goat's milk, the baby thriving on this when cow's milk sterilized and raw was not nourishing.

Dr. E. L. MORGAN.—No kind of milk will do for all cases. The question is to get a food to suit the particular case. Sometimes one will do—sometimes another kind is needed.

Meeting of April 11th, 1895.

Dr. J. W. BOVEE read a paper—

Report of Some Unique Gynæcological Operations. [See page 301.]

DISCUSSION.—Dr. J. E. WALSH thought it would have been more appropriate for a gynæcologist, instead of a general practitioner, to open the discussion. The first case was more interesting to him, as he had assisted Drs. L. Eliot and Reyburn in performing an enucleation of the uterus through the vagina. The operation was done with so little loss of blood that he was surprised that Dr. Bovee had to abandon the operation on account of the profuse hæmorrhage. The case he referred to had carcinoma; the cervix and a portion of the body had been previously removed by means of curette and thermo-cautery. The clamp was not used, and it was unnecessary to ligate any vessel. Thought the operation was generally accompanied by but slight hæmorrhage.

Dr. I. S. STONE said the running cat-gut suture would prevent any oozing from the anterior and posterior flaps. Thought it exceptional to find bowel adhesion in cases of

uterine prolapse, as the mesentery is usually not long enough to permit of such complication. So few cases of vaginal hysterectomy are followed by vaginacele that he considered this a satisfactory explanation of the fact. The uterus, in such a case, may become, by prolonged maceration, not only smaller, but entirely absorbed. One case occurred in his experience in which a lady, aged 65 years, the mother of several children, had no uterus or ovaries, they having been entirely removed by pressure and maceration in a vaginacele of twenty years' duration.

Dr. J. W. Bovee.—In Dr. Walsh's case, he remembered that as much tissue had been removed as was considered safe, and that but very little was left to enucleate. In his own case, two ligatures were used for the uterine arteries. The hæmorrhage was due to oozing. Ligatures had been applied to the tubes.

Dr. F. T. Chamberlin read a paper—

Sarcoma of the Tonsil Treated by the Toxines of Erysipelas. [See page 290.]

Dr. J. D. Morgan said that whereas he did not, in this case, question the diagnosis, microscopists are sometimes mistaken. Recalled a case of sarcoma situated near the knee. The microscope showed it to be of the round-cell variety, and amputation above the joint was urged. This was not done, and the patient has entirely recovered.

Dr. Moran had not had any experience with artificial inoculation of erysipelas in the treatment of malignant tumors, but had several cases where the intercurrence of erysipelas exerted a marked antagonistic and curative effect on the primary disease. In his paper* on "Antagonism of Erysipelas in Disease," read before this Society February, 1894, he reported a case each of diphtheria and pneumonia in which the primary disease disappeared simultaneously with the development of the erysipelas. Since then he had two more cases terminating in the same manner, and confirming the views then expressed. The first was a case of diphtheria occurring in an adult, the Klebs-Loëfler bacillus being present. Facial erysipelas developed spontaneously on the eighth day; and, as in the previous case, the membrane quickly disappeared. The second was a case of acute tonsillitis, in which the distressing symptoms were relieved, as if by magic, upon the intercurrence of the erysipelas.

The inoculation of erysipelas, accidentally or artificially,

* *Va. Med. Monthly*, April, 1894.

or the injection of the toxic products of the streptococci of erysipelas exerts an antagonistic and curative effect in various diseases, and upon malignant tumors, is an established fact, supported by the reports of eminent authorities.

Coley* reports a case of recurrent sarcoma of the neck and tonsil successfully treated by injection of the fluid cultures of living streptococci of erysipelas. This patient had been twice operated upon—first by Duvante, of Rome, and the second time by Dr. Bull, of New York, March, 1891. When Coley began his treatment, May, 1891, the tumor of the neck was growing rapidly, and the tonsil tumor had filled the pharynx to such an extent that only liquid food could be given, and that frequently regurgitated through the nose.

After repeated injections he succeeded in producing a severe attack of erysipelas, followed by disappearance of tumor and gradual improvement in health. The patient is alive and well to-day, more than three years since the beginning of the treatment.

Dr. G. M. Kober said: The successful treatment of sarcoma by antitoxines is a strong argument in favor of the microbial origin of these growths; indeed, it would be difficult to account for the efficacy of this treatment in any other way. In the cultivation of bacteria, it has been shown that wherever varying forms of bacteria are growing together, a struggle for existence begins. The hardy and rapidly growing bacteria struggle with their neighbors, and the weaker, as usual, go to the wall. Some varieties, during their life-process, evolve ptomaines, which poison neighboring pathogenic germs; and whilst this antagonism does not always exist, yet the employment of the various toxines is based upon laboratory experiments, and the clinical results obtained justify the hope that we shall, sooner or later, come into possession of antidotes for the various pathogenic germs.

Dr. E. L. Morgan suggested the possibility, in the future treatment of disease, after bacteriology had demonstrated its germ and ptomaine, that chemistry would play a more important part. We would take the proper proportions of elements and manufacture any desired ptomaine. Diazobenzol and tyrotoxicon causing cheese, ice cream and milk poisoning, having the same chemical and physiological properties, are identical.

? *Am. Jour. Med. Sciences*, July, 1894.

Vaughn has demonstrated tyrotoxicon as a crystalline body of decided odor and taste. If this can be manufactured by the chemist, may we not hope that he will be able to form the ptomaine of erysipelas or other disease.

Dr. J. W. Bovee hardly thought the formation of synthetical ptomaines possible. But recently he had placed a patient suffering with lupus in a ward with one suffering with erysipelas, with the idea of antagonism. Had used Koch's tuberculin in a case of lupus of the face. Four or five months after leaving the hospital, she reported as entirely cured.

Dr. J. Eliot.—Sarcomata of the tonsil are rare, only forty-five being reported in Bosworth's latest work. Two are credited to my father; they are of rapid growth, and hopeless in the end. In a case of my father's, there was no recurrence at the end of three years; in the other, there was early return followed by death. Though aware of the supposed antagonism, he would hesitate before inoculating with erysipelas and its toxines in the hopes of effecting a cure. The use of toxines in this affection supposes a bacterial origin; has seen it stated that the antagonism consists in the high temperature developed during erysipelas, but this can hardly be true, as we have no good effect on the growths in acute rheumatism or pneumonia where there is very high fever.

Dr. G. M. Kober stated that reports from various hospitals, both at home and abroad, furnished strong evidence in favor of tuberculin in lupus and other local tubercular affections, and the report of the Surgeons of the University Hospital of Philadelphia, published in the *American Journal of Medical Sciences*, in 1892 or 1893, contained a number of interesting cases attesting the value of tuberculin.

Dr. Chamberlin, in closing, said. so far as the microscopical examination was concerned, it was correct. The pillars receded very rapidly. These toxines were from gelatine cultures. The patient has gained eighteen pounds.

If You Have a Fatiguing, Deaf Patient to Talk to,

Place the ear piece of your binaural stethoscope in the patient's ears and talk into the chest piece, and you have an excellent ear trumpet.—*Railway Surg.*, May 21.

Analyses, Selections, etc.

Treatment of Tuberculosis; Latest Report of Cases Treated with Blood-Serum,

by Dr. Paul Paquin, of St. Louis, Mo.

In January, 1895, he commenced the treatment of his cases with blood-serum. Their number is now twenty-two, all in either the second or third stage. They have received daily injections for two months, have gained from one and a half to twenty-two pounds, and are now all living. All were originally emaciated, had bacilli, and had suffered from hæmorrhages. Two other cases had died in from three to five days before the treatment was commenced, but they were practically *in articulo mortis* when first seen. No other treatment whatever was employed. When the serum was stopped, they grew worse, but improved upon its resumption. The effect of treatment was to diminish the activity of the tubercular process, lessen hæmorrhage, improve appetite, lessen cough and nervous irritability. Serotherapy has also a useful application in surgical tuberculosis, as in knee-joint disease.

In regard to the source of the serum, it must be admitted that the horse is not absolutely immune to tuberculosis. The serum seems to change in power after several withdrawals from the same animal. During the recuperation from the debility caused by the blood-letting, the animals seem to develop toxines of some sort, and hence there is a great variation in the effects produced upon the patients by the injections. The fluid is best preserved by the addition of a little camphor, and from ten to thirty minims are injected daily. In a few instances flushing of the face with a subsequent change to a purplish hue has been observed, lasting from four to five minutes, and occasional chills. It is believed that this severe reaction follows from the needle chancing to be inserted directly into a blood-vessel. Arthritic symptoms have also been observed, especially in people previously rheumatic. The urine is considerably diminished, and in one case albumin was found.

In answer to inquiry, Dr. Paquin said that he immunizes the horse by injecting into the jugular vein, first of all, culture fluids containing the toxines of bacilli, then dead bacilli, and finally living bacilli; these injections continuing till all constitutional reaction on the part of the animal has ceased.

In the discussion, Dr. Karl von Ruck, of Asheville, N. C., declared that no animal was absolutely immune toward tuberculosis. To decide this question positively as to the horse, we must kill the animal and examine the tissue, both as to pathology and bacteriology. Dr. Paquin's animal experimentation was as yet incomplete, and no proof had yet been brought forward that the serum had any curative value on either animals or men. Dr. von Ruck had injected some of the serum into guinea-pigs, and they had all promptly died in forty-eight hours. Dr. Paquin had spoken of the spores of tubercle bacilli. He himself had never seen any, and it was doubtful whether this variety of bacilli had spores or not.

Dr. Rochester remarked that phthisical cases sometimes recur without any treatment whatever. He believed that specific treatment was out of place in the mixed infections which they generally present.

Dr. Henry D. Holton, of Vermont, stated that the serum of the ass would probably be superior to that of the horse, for there was very little fatality from phthisis in those countries where the milk of the former animal was used.—*Bost. Med. & Surg. Jour.*, May 30.

Empyema of the Mastoid and its Relation to Acute Aural Disease.

Dr. S. MacCuen Smith, of Philadelphia, Pa., Clinical Professor of Otology in Jefferson Medical College, etc., read a paper on this subject before the Pennsylvania State Medical Society, in session in Chambersburg, on 21st May. He stated that it was formerly taught that empyema of the mastoid could only occur as a complication of a *chronic* suppurative inflammation of the middle ear. While this is usually true, it is now conceded that this purulent invasion often occurs as the result of *acute* suppurative otitis media. This inflammation may arise either by direct continuity of structure, by infection through the venous circulation, or through the nutrient vessels which traverse the canaliculi and pass from the carotid canal to the mucous lining of the tympanic cavity. This extension of the inflammatory process may be prevented or promptly relieved, by intelligent action on the part of the attending physician. Out of eleven cases of mastoid empyema, arising from *acute* otitis media, four showed only a superficial abscess, five were confined to the mastoid antrum, and two extended into the mastoid cells. In the four cases of superficial abscess the pus had burrowed

its way through the thick outer walls in less than one month, and a Wilde's incision was sufficient to establish free communication between the spontaneous opening in the antrum and the external auditory canal. In the remaining seven it was necessary to trephine the mastoid.

It is difficult to account for the extensive destruction to the soft parts and to the dense bony walls, which may occur in a very brief period. It is also difficult to explain why the confined pus should burrow out through a very thick plate of bone, instead of penetrating through the thinner osseous wall that separates the mastoid and the middle ear cavities from the interior of the skull.

The points to be noted are: 1. The fact that mastoid complications do frequently develop from *acute* inflammation of the middle ear. 2. The necessity for prompt recognition and relief of *acute* inflammatory disease of the ear. 3. Immediate evacuation of pus when present.

Book Notices.

Suggestive Therapeutics in Psychopathia Sexualis; with Especial Reference to Contrary Sexual Instinct. By Dr. A. VON SCHRENCK-NOTZING (Munich, Germany). *Authorized Translation from the German* by CHARLES GILBERT CHADDOCK, M. D., Professor of Diseases of the Nervous System, Marion-Sims College of Medicine, St. Louis, etc., etc. Royal 8vo., 325 pages. Extra cloth, $2.50 net; Sheep, $3.50 net. (Sold only by subscription to the medical profession exclusively). Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry street.

There is such a dangerous prurience on the part of sexual perverts to familiarize themselves with the acts and means of accomplishment of their predecessors that we must commend the excellent publishing house for their stand in selling this book only to doctors. As long as the subject involved in the title is simply kept as a study in psychiatrics as one of the perversions of mind, the book is serviceable. But the great importance of the work is teaching of the curative value of "suggestive therapeutics" or hypnotism. Undoubtedly many cases of sexual perversion are curable by suggestive hypnosis. This book stands in striking contrast with some of the views held by Von Krafft-Ebing, whose work was published a few years ago. In fact, Dr. Chaddock—the translator of the work under notice—is so confirmed in the correctness of the views of his author that he hopes soon to fortify them by an original contribution to the literature of the subject.

Materia Medica and Therapeutics for Physicians and Students. By JOHN B. BIDDLE, M. D., late Professor of Materia Medica and General Therapeutics, Jefferson Medical College, Philadelphia. *Thirteenth Edition, Revised, Rearranged and Enlarged*, by CLEMENT BIDDLE, M. D., Medical Corps U. S. Navy. *With Numerous Illustrations.* Philadelphia: P. Blakiston, Son & Co. 1895. Cloth, 8vo. Pp. 714. Price, $4. For sale by Hunter & Co., Richmond, Va.

It is stated on the title page that the present edition has been prepared "with special reference to therapeutics, toxicology, the physiological action of medicines, and containing all the preparations and remedies described in the U. S. Pharmacopœia of 1890, to which the work has been made to conform." In other words, this edition is written by the editor alone—the author having died in 1879 on issue of the eighth edition. The arrangement of the subjects makes the work well adapted to use as a college text-book—the principal articles of each "Order" being given in the order of its importance under that head, instead of alphabetically—the most abominable way in which a text-book can be arranged. The drugs and their preparations are well described, and their physiological actions and therapeutic uses clearly stated. We wish this notice would impress teachers who are selecting text-books as the work itself impresses us as being the one needed by the student.

Manual of General Medicinal Technology, Including Prescription Writing. By EDWARD CURTIS, A. M., M. D., Emeritus Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons, Medical Department of Columbia College, New York. *Third Edition*, conforming to the U. S. Pharmacopœia of 1890. New York: William Wood & Co. 1895. Pocket size, 245 pages. Price, $1.

Whoever undertakes a critical examination of the pharmacist's prescription file will wonder at the lack of uniformity in prescription writing. The journal editor cannot always afford to let "copy" go to the printer as written by the author of a paper for fear of ruining his journal. In fact, too little attention is given to this part of the college course. This little book well supplies the deficiency—teaching in such plain, simple terms that he who reads may learn. The present *third edition* is made to conform in technicalities, etc., to the U. S. Pharmacopœia of 1890, which became official January 1st, 1894. It is a useful issue of "Wood's Pocket Manual Series." Its convenient size recommends it as the companion of the student or young practitioner, as it can be carried easily in an ordinary coat pocket.

Editorial.

The Medical Society of Virginia

Will meet in Wytheville, Va., Tuesday night, September 3rd, 1895, and will continue in session through Thursday. The time selected is when visitors will still be in mountainous sections, and before School and College sessions have begun. It is, in fact, at a season best suited to secure the largest possible attendance of the profession from all parts of the State. Wytheville, too, is in the centre of a section that is famous for its many near-by summer resorts. The Local Committee of Arrangements is alive to every interest of the Society, and has already begun work to secure every possible advantage for the successful meeting. The President of the Society, Dr. Robert J. Preston, of Marion, Va., assisted by his numerous friends in the profession, is doing excellent service in enlisting the earnest co-operation of doctors throughout the State, so that we may safely predict a good and profitable meeting. We trust that members of the Society everywhere will interest their friends in the profession in this session of the Society—urging those who are not yet Fellows to send in their applications for Fellowship. The preliminary postal card announcement will be issued within a month. In the meantime, it is to be hoped that all connected with the organization will keep the Recording Secretary (Dr. Landon B. Edwards, Richmond, Va.) informed as to items which can possibly interest the Society.

Chigago Physicians Organize to Protect Themselves Against Delinquents.

Delinquents who owe doctors' bills must have a care or the next time they fall ill they must prescribe for themselves. The Physicians' Business Bureau "for social purposes and protection" has been incorporated in Springfield with Drs. Henry F. Lewis, I. N. Danforth, N. S. Davis, and Christian Fenger as incorporators. The object of the bureau is to protect its members against people who don't pay up after treatment. At the end of a certain time, yet to be agreed upon, the delinquent's name is to be put on a list by the attending physician. This list will be passed around among the members, who will know what men are not to be trusted.—*Railway Surg.*, May 21.

Baltimore Meeting of the A. M. A.

The Baltimore meeting of the American Medical Association was a success. The new officers are: President, R. Beverly Cole, of San Francisco; Vice-Presidents, first, J. J. chisolm, of Baltimore; second, J. C. Le Grand, of Anniston, Ala.; third, A. P. Clarke, of Cambridge, Mass.; fourth, T. P. Satterwhite, of Louisville, Ky.; Treasurer, Henry P. Newman, Chicago; Secretary, W. B. Atkinson, of Philadelphia; Librarian, George E. Wire, of Chicago; New Members of the Board of Trustees, Alonzo Garcelon, of Lewistown, Me. (re-elected); I. N. Love, of St. Louis, Mo. (in place of P. H. Millard); James E. Reeves, of Chattanooga, Tenn. (in place of J. W. Graham); Judicial Council, William M. Welch, of Philadelphia (in place of John B. Roberts); D. W. Smouse, of Des Moines, Iowa (in place of J. M. Emmert). To Deliver the Annual Addresses, N. Senn, of Chicago, on Surgery; William Osler, of Baltimore, on Medicine; George H. Rohe, of Baltimore, on State Medicine. Chairman of Committee of Arrangements, W. F. Westmoreland, of Atlanta, Ga. Place of next meeting, Atlanta, Ga.; date first Tuesday in May. The report of the Trustees: "During the year no advertisements of secret remedies have been accepted that were not accompanied by a formula, but to still further comply with what appears to be the desire of a large number of those interested in the highest success of the *Journal*, the editor, with the termination of present contracts, has been instructed to accept no advertisements of medicinal preparations the proprietors of which do not give a formula containing names and quantity of each composing ingredient, to be inserted as a part of the advertisement." Unanimously adopted.

Dr. S. K. Jackson Acquitted.

It will please his friends in the profession to learn that the jury in the case of Dr. S. K. Jackson, of Norfolk, Va., required only a few moments for consideration of the evidence, etc., before returning a verdict of not guilty. Drs. Hunter McGuire and Thos. J. Moore, of Richmond, Va., responded to the summons made upon them by the attorneys for the defence for expert testimony.

The Atlanta Medical College,

Out of a total of 383 matriculates, on April 2nd, graduated 135 doctors of medicine and 4 graduates in pharmacy.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 4. WHOLE NUMBER, 256.

RICHMOND, JULY, 1895.

Original Communications.

Art. I.—Therapeutics of Diphtheria—Including Hospital Experience with Antitoxin *

By ERNEST C. LEVY, M. D., of Richmond, Va.

Adjunct Professor of Physiology at the Medical College of Virginia.

Whenever a satisfactory point has been attained in the therapeutics of any disease, we find that a very small number of drugs is relied upon in its treatment; and, furthermore, that careful consideration of the special case in hand will almost invariably result in a further reduction of this already short list, until, finally, we are led confidently to select definitely indicated medicament from the endless array of drugs which the modern materia medica offers to our profession.

Conversely, when we find recommended in the treatment of any morbid condition drugs innumerable, and widely diverse in their properties, we may safely conclude that our methods of combatting that disease leave much to be desired. Nowhere, I believe, can the second part of this prop-

*Read before the Richmond Academy of Medicine and Surgery, June 11 1895.

osition be more forcibly illustrated than in the therapeutics of diphtheria.

Merely to enumerate the various plans of treatment which have been advocated would consume almost as much time as I feel justified in claiming your attention to-night. Accepting the ordinary divisions of materia medica, we find recommended, at one stage or another of the disease, agents from every class: cathartics, emetics, and genito-urinals; tonics, alteratives, and depletents; cerebral excitants, cerebral depressants, motor excitants, and motor depressants; antiseptics, and so on—no group being slighted.

It is not my purpose, however, to weary you with an attempt to discuss or even to mention the numberless methods which, lauded for a time, have now passed out of use. To do so must result in confusion and uncertainty; hence I propose confining myself to the discussion of measures which have either stood the test of time, or which, though comparatively new, seem to possess real merit. In taking the liberty of doing this, I do not wish it to appear that I am assuming the rôle of a self-constituted censor. The methods which I shall advocate will be largely those the application of which I have followed in a number of cases which I had the privilege of observing during a recent residence at the Willard Parker Hospital for contagious diseases in New York city. At this institution, there are at all times forty to fifty cases of diphtheria on hand, representing the disease in all stages and in every degree of virulence. No promising new plan of treatment is neglected. Many of these are naturally soon discarded; hence, by the law of the survival of the fittest, the present methods must represent the best treatment of diphtheria in the opinions of the capable and observant physicians having charge at this institution.

The treatment of diphtheria must be based upon an intelligent consideration of the dangers of the disease in general, and of each case in particular. These dangers, as commonly agreed upon, are—

1. Diphtheritic toxæmia.

2. Sepsis.
3. Laryngeal obstruction.
4. Nephritis.
5. Heart failure.
6. Pulmonary lesions, including bronchitis, broncho- and lobar pneumonias, congestion and œdema of the lungs.

It will facilitate a clear understanding of the case to consider the above under two classes, remembering, however, that the distinction is not to be regarded as absolute. In the line of direct danger, we have diphtheritic toxæmia and laryngeal involvement (croup), while those remaining may be regarded as indirect or complicating. Of the direct dangers, diphtheritic toxæmia naturally occupies the first position, since it is present in every case of true diphtheria, and is always of serious moment, not only in its immediate effects, but as either the active or contributing cause of many of the complications and sequelæ of the disease. Moreover, it assumes special importance just at this time on account of the recent advance made in its treatment by the evolution of antitoxin therapy. In order clearly to appreciate and intelligently to employ this valuable means of dealing with diphtheria, it is necessary to have a perfect understanding of the *nature of diphtheritic toxæmia.*

That diphtheria is primarily a local affection is now settled beyond dispute. There is first hyperæmia of the affected mucous membrane, followed rapidly, in most cases, by the development of the pseudo-membranous deposit, the appearance of which, in its typical forms, is so well known that it is useless to describe it here; nor is it necessary to mention the parts where it may first be visible. In the affected area, the Klebs-Lœffler bacilli are always present as the exciting cause of the trouble. These micro-organisms, in the process of their growth, produce an exceedingly active poison, belonging to the class of toxalbumins and called diphtheria toxin. This poison is absorbed into the circulation as soon as elaborated, giving rise to the familiar constitutional symptoms. So rapidly are these toxins absorbed, and so powerful are they, even in minute doses, that in

some cases the constitutional symptoms attract attention at a time when examination of the throat will show no membrane as yet present. It is this fact which led to the error of regarding diphtheria as a constitutional disease with the development of a pseudo-membrane as merely one of its symptoms. We now know, however, that in these cases, although the local trouble has not progressed to the pseudo-membranous stage, the lesion is there, and the presence of the germs can be demonstrated from the start by suitable means of examination.

Our treatment for the toxæmia of diphtheria has, until recently, been only indirect, consisting of sustaining measures, combined with the endeavor to limit the amount of absorption from the pseudo membrane by means of local treatment. If the patient can be sustained in fairly good condition for about a week, the natural reaction against the diphtheritic process, as such, sets in. It is now our belief that this reaction is due to the development in the blood of the patient of an *anti*toxic principle which neutralizes the toxin of the disease. Ofttimes, however, the relief process has been too slow, and by the time it is established irreparable damage has been done, especially in the way of beginning parenchymatous or fatty degeneration of the heart, kidneys, or other organs. Fortunately we are now no longer compelled to wait for nature to bring about this re-action. The workers in this field have discovered the nature of the antidotal principle, and, in supplying us with diphtheria-antitoxin, have placed in our hands an agent potent for good in the first stage of the disease. As is the case with every new method of treatment, it is impossible to say exactly what will be the ultimate verdict of the profession in regard to antitoxin, but that it is a remedy of great value cannot be doubted. We must not, however, expect it to cure moribund cases of a good many days' standing, or to relieve symptoms caused by anything else than the toxic element of the disease.

As its early exhibition is of such moment, prompt and *reliable diagnosis* becomes of great importance; and hence

I need hardly apologize for going into this matter at some length. Many cases which we are called upon to treat are so clearly true diphtheria that the experienced physician needs only good power of vision in order to make a positive diagnosis at once. Other cases can, with equal certainty, be recgonized as follicular tonsillitis. But every observant practitioner has encountered many a case where a positive opinion could not be given, and where the question of diagnosis has been arrived at by the course of the disease. If the throat clears up in a few days and the general condition improves rapidly, the case is considered to have been tonsillitis. If it hangs fire longer, it is pronounced diphtheria. There are, of course, many objections to such loose means of discrimination. Evidently no exact number of days can be said to mark the boundary between the two classes of cases, and often we are surprised to find a patient, after rapid recovery from what we have considered follicular tonsillitis, develop, some weeks later, post-diphtheritic paralysis, or to have some other member of the household develop pronounced diphtheria, which we are satisfied has been caused by exposure to the first case.

In every instance, therefore, where there is the least doubt, we should at once have recourse to a *bacteriological examination* to settle the question. This examination is not, in itself, difficult, but requires considerable experience before one's conclusions are to be relied upon, and, moreover, certain accessories are essential, the preparation of which requires many hours' work.

The Health Departments of the larger cities have taken this matter in hand, and furnish every physician who desires it with the means of taking cultures from the throat of every suspected case of diphtheria. These cultures are promptly examined and the results reported. Unfortunately our city has not yet taken steps in this direction. The part of the work requiring most time is the preparation of the culture tubes. These tubes contain the Lœffler culture medium, which consists of seventy-five per cent. blood serum and twenty-five per cent. beef-peptone-bouillon,

the latter containing one per cent. glucose, reducing the proportion of glucose in the completed product to one-quarter per cent. This mixture, after pipetting into small test tubes, is sterilized by heat, and, lastly, solidified, while the tubes are resting in an oblique position, by subjecting it to a still higher temperature. This gives us a slanting surface of a solid culture medium. These tubes and the swabs, also contained in cotton-plugged test tubes and sterilized by heat, are all that is required for taking a culture.

When this is to be done, the patient is placed in a good light, the tongue depressed, and the swab pressed gently but firmly over the affected area. The cotton plug is then removed from the culture tube and the swab wiped over the surface of the culture medium. The plug is then returned to the tube and the swab is flamed to insure its doing no damage in the way of conveying infection. The culture tube should as soon as possible be placed in a thermostat, the temperature of which must be kept between 35° and 37° Centigrade. At the end of twelve to fourteen hours the culture is ready for examination. By this time a more or less abundant bacterial growth will be visible.

After experience in examining a large number of tubes, a characteristic growth can frequently be recognized by mere inspection of the colonies with the naked eye or a low power lens. These colonies are seen as slight elevations of a grayish-white color and moist appearance. Of course inspection alone is not to be relied upon. A platinum needle is passed over the surface of the medium, thus securing portions of a number of these colonies, and the material thus obtained is prepared for microscopical examination in the usual manner. The best stain is Lœffler's alkaline-methylene blue solution. For examination, a one-twelfth inch oil-immersion objective is necessary. Under the microscope the bacilli are seen as slightly curved rods, often beaded in appearance on account of irregular staining. Involution forms are frequently found. There are no other bacteria which can possibly be mistaken for the Klebs-Lœffler bacillus except the pseudo Lœffler bacillus. With this exception,

no other bacilli at all similar in appearance to the bacillus diphtheriæ will present a visible growth at the end of twelve hours upon this culture medium. Micrococci are frequently found, but are easily distinguished by their form.

The finding of the Klebs-Lœffler bacillus, *taken in conjunction with the clinical data*, establishes the diagnosis. In cases of pseudo-diphtheria only micrococci, chiefly streptococci, are found. Thus it will be seen that a positive opinion in any doubtful case can usually be arrived at in less than twenty-four hours after the culture is taken.

When provided with the tubes and swabs, any physician can take a culture; but the preparation of these culture tubes and the microscopical examination require a good deal of skill and far more time than a physician in practice can devote to even so important a matter as this. Hence, it is to be hoped that some provision will be made in this city for carrying on this work.

The case having been diagnosed as diphtheria, either by the unmistakable clinical data, or by means of the additional bacteriological evidence, *what are we to do?* Promptness of action is all-important, especially if the symptoms of toxæmia are marked. If this is the prominent feature of the case, and it is seen during the first few days of the disease, I should certainly advise the *administration of antitoxin* at once and in sufficiently large dosage. Except for immunizing purposes, I do not advocate the use of a serum weaker than Behring's No. II, and I consider it better to administer the indicated number of units in a small dose of a strong serum than to give the same number of units in a large dose of a weaker one. A case which is mild enough to make one consider the propriety of giving less than one thousand units would probably do just as well without any. The antitoxin with which I have had most experience is that manufactured by the Health Department of New York city, and I have found it quite satisfactory. Parke, Davis & Co. are agents for an antitoxin prepared in New York under the supervision of Dr. Ira Van Gieson, who also assisted in the work of the New York Health Department,

and I know their product to be a good one. The best syringe I have seen is one gotten out by Dr. Cyrus Edson, of New York, and manufactured by Tiemann. It is not quite as easily manipulated as some others. but possesses the advantages of great simplicity and thorough asepsis.

The best seat for the injection is in front of the anterior axillary line, a short distance below the mamma. The use of the subcutaneous tissue of the inter- or infrascapular region is open to the objection of being irritated after the injection by the patient's lying on the back. In pregnant women, however, it is best to avoid making injections near the breasts. In about one hundred and fifty cases which I injected while at the Willard Parker Hospital, most of them twice, and some three or four times, making a total of something over three hundred injections, I never saw any local trouble develop.

If the antitoxin be given early in the disease, when toxæmia is the chief feature of the case, improvement should begin within twelve hours. It may be necessary to give a second dose within twenty-four hours. If the condition of the patient does not show marked amelioration, a third or even a fourth dose may be required. Usually, however, two injections are all that are necessary. In cases of five or more days' standing it is practically useless to administer antitoxin, since toxæmia is not then the chief point to be combatted.

In a few cases, after the administration of antitoxin, the membrane is rapidly cast off. This, however, is by no means a constant result, though antitoxin does seem to have a decided influence in checking the extension of membrane

As to the *untoward effects of antitoxin*, I must say that in my experience these have been limited to the occurrence of rashes of various kinds; erythematous, urticarial, scarlatiniform, and morbilliform. Frequently there is an accompanying rise of temperature, less common when the rash is urticarial than in the other forms. The time for the appearance of the rash is the third to tenth day after the antitoxin injection, most frequently appearing on the eighth

day. These rashes usually disappear rapidly, often within a few hours, almost invariably in two or three days. In many cases they reappear once or oftener at intervals of a few days. In my experience about twenty per cent. of cases have developed some form of rash. It must not be forgotten, however, that post-diphtheritic rashes were described by writers before the days of antitoxin as by no means uncommon, and hence not every rash should be attributed to the use of that remedy. We must remember also that a patient recovering from diphtheria may develop one of the exanthems, and be careful not to mistake measles, scarlatina, or varicella for an antitoxin rash. The differential diagnosis is made by the presence or absence of the usual symptoms accompanying these troubles.

Joint symptoms occasionally occur after antitoxin. As I have not seen this complication, I cannot discuss it from a personal standpoint.

Local measures should not be neglected, no matter how perfect our confidence in the efficacy of antitoxin. Especially are they indicated in nasal cases, since absorption of the toxins is most rapid in this form of the diseases. Irrigation of the nose by means of a fountain syringe, containing a .6 per cent. solution of common salt, is to be highly recommended here. The temperature of this solution should be 105° to 110° Fahr., or even hotter. Frequently where the nostrils are almost entirely occluded the first or second irrigation will bring away a complete cast of the nares. The use of powerful antiseptics appears to possess no advantage over the saline solution.

Membrane upon the tonsils or palate usually requires no local treatment, especially where antitoxin has been given in time. If, however, there is much systemic disturbance, and the breath very fetid, the frequent use of a gargle or spray of peroxide of hydrogen is of benefit. All attempts to remove the membrane by force, as well as the application of caustics, are now discountenanced. It has seemed to me when the common mixture of bichloride of mercury with tincture of the chloride of iron and glycerine has been

employed in frequently repeated doses, that it has exerted a somewhat beneficial action locally—especially where the throat has been gargled immediately beforehand with hot water containing Listerine in the proportion of two teaspoonfuls to half a teacupful of water.

The administration, at the beginning of treatment, of a series of small doses of calomel, one-tenth to one-half grain every 15 minutes for 10 doses, or every hour, until the bowels move freely, is decidedly beneficial, while bichloride of mercury and tincture of the chloride of iron in fair doses are also to be recommended.

Throughout the disease stimulation must be resorted to as indicated. The employment of whiskey to the point of narcosis is to be condemned, but patients with diphtheria can often take enormous amounts of whiskey without becoming profoundly affected by it. The condition of the pulse and the general appearance of the patient are our guides as to the proper dosage.

Nutrition is all-important. The food should be light and easily digested. Milk and beef-juice, with raw or soft-boiled eggs (provided the patient is old enough to take these) must be relied upon during the early days of the disease. The feedings must be frequent and at regular intervals. Later, when convalescence is established, the diet should be more varied. At this time tonics may also be indicated, especially iron and strychnine.

Croup developing in the course of a case of diphtheria is always the occasion of anxiety. In some instances, this is the first symptom to attract attention. Pseudo-membranous croup is now almost universally regarded as diphtheritic in character, except where due to traumatism or some irritant inhalation. Cultures taken from the *pharynx*, in cases of membranous croup, without apparent tonsillar or pharyngeal lesion, show the presence of the bacillus diphtheriæ in 80 per cent. of cases, and we must believe that if the cultures were taken from the membrane itself, the presence of the bacillus could be demonstrated in almost every instance. Certainly, such cases should be isolated and re-

garded as contagious. Where the trouble starts on the tonsils or pharynx, the larynx may become involved very quickly, or after some time. I have never seen this complication occur where antitoxin was promptly administered while the disease was still confined to the fauces and pharynx.

When croup has developed, relief may often be obtained by the administration of a brisk purgative, combined with the use of steam inhalations, the application of either heat or cold to the neck, and, what has somewhat recently been advocated, the employment of calomel fumigations. The use of emetics is not as popular as formerly in this condition.

If the laryngeal symptoms become extreme, as shown by great retraction of the sternum, epigastrium, and supraclavicular notch at each inspiratory effort, and especially if the patient is becoming cyanotic, recourse must be had to surgical measures, and either intubation or tracheotomy performed at once. I must confess that I am somewhat of an enthusiast upon the subject of intubation, and would seldom resort to tracheotomy unless there were strong reasons why the other was not permissible.

Intubation, when skilfully done, requires but a few moments for its performance, no anæsthetic is administered, there will usually be little or no objection on the part of the parents, no wound is made to disfigure the patient and to become the seat of fresh diphtheritic infection, and the relief is usually perfect. Moreover, should tracheotomy subsequently become necessary, no harm has been done by having intubated. I regard the rapidity with which intubation can be performed as a great advantage. I have frequently succeeded in relieving impending apnœa by this means in less time than would have been consumed in making the absolutely necessary preparations for a tracheotomy. When skilfully performed, it should require only from ten to thirty seconds from the time the mouth-gag is introduced until the tube has been placed in position and the introducer and gag removed.

A great argument in favor of intubation is that respiration, after its performance, approaches the normal far more closely than after tracheotomy, the inspired air being warm and moist. In spite of this advantage, the most frequent cause of death after intubation is broncho-pneumonia, this complication occurring in almost, but not quite, as large a percentage of cases as after tracheotomy.

When membrane is present low down in the trachea, intubation is not to be substituted for tracheotomy; but in these cases the prognosis is always exceedingly unfavorable under any method of treatment.

The intubation tube is left in anywhere from one to seven days, according to indications. Sudden plugging of the tube demands its immediate removal and re-introduction, after thorough cleansing, provided urgent dyspnœa still continues. When the tube is out, pieces of membrane, as well as accumulations of muco-pus from the bronchi, are frequently coughed up, as the patient is then able to make forcible expulsive efforts, which is, of course, an impossibility when either a tracheotomy or intubation tube is in position.

When intubation is done in private practice, it is best to leave the thread attached to the tube and fastened to the cheek by an adhesive strip, so that if plugging should occur in the abscence of the physician, the nurse or attendant can remove the tube at once.

Except for extreme necessity during the absence of the physician, the tube should never be removed in this way, but always by means of the extractor, which forms a part of the intubation set.

Pulling on the thread does not produce traction in the right direction and may result in more or less damage to the parts. Of course it must be resorted to under the conditions above referred to. After some experience, the removal of the tube by means of the extractor—an operation presenting such difficulties to the novice—is as easily accomplished as its introduction.

In a fair proportion of intubated cases, it happens that

in the course of a few days, as the membrane becomes loosened and the swelling subsides, the tube is coughed up by the patient. When this occurs, the tube may, in some instances, be left out, but not infrequently its reintroduction is required. Of course the indications of each individual case must be followed.

Having consumed so much time in considering the direct dangers of toxæmia and croup, the complicating ones must be very briefly dealt with.

Sepsis is a condition of mixed infection. It is to be treated on general principles, but any one who has seen the horrible condition of patients in whom the disease has taken this form, need hardly be told that little can be done, although apparently hopeless cases do occasionally recover. The profound depression and somnolence, amounting frequently to coma; the putrid throat and nose, with thin sanguino-purulent discharge; the swollen neck and glazed face, form a picture which, once seen, can never be forgotten, and which must always make the heart of the strongest physician sink when he is called upon to witness it again. Tonics and stimulants are called for, and the endeavor must be made to meet urgent symptoms as they arise. Antitoxin may be given to combat one element of the trouble, but little good is to be expected from it.

Heart failure is caused by parenchymatous or fatty degeneration of the cardiac muscle, occasioned by the action of the diphtheritic toxin. If this poison is neutralized early in the disease by the use of antitoxin, such degeneration is far less likely to occur. Of course heart tonics and stimulants are indicated when signs of weakness of this organ exist.

Kidney complications may be in any of the forms of acute nephritis. Unlike post-scarlatinal nephritis, that occurring during the course of diphtheria is not, as a rule, accompanied by œdema. Frequent examinations of the urine should always be made in every case of diphtheria. It must be remembered that albuminuria is by no means uncommon in the course of this disease, and is frequently of

slight moment. Nephritis is to be treated in the same manner as when due to other causes.

Pulmonary lesions in the form of bronchitis, broncho- or lobar pneumonia, congestion, and œdema, are the occasion of death in a very large percentage of fatal cases of diphtheria. This is the most frequent cause of death in laryngeal cases, especially where intubation or tracheotomy has been necessary, since only by some unforeseen accident should a physician at this day lose a case by laryngeal obstruction. These complications are to be treated as under other circumstances.

In connection with the treatment of diphtheria, the question comes up as to *how long a case must be isolated after recovery?* No hard and fast rule can be laid down, and the safest plan is to make bacteriological examinations at intervals, and to forbid communication with others, until the Klebs-Lœffler bacilli have been proven to be absent on one or two examinations. This is the plan now insisted upon in New York city. The germs are often found in the throat for weeks after the disappearance of the membrane. The greatest length of time I have seen them persist is six weeks, but cases are reported where they have been found after a period of over two months. As a rule, they are not found after two or three weeks, and, if no means be at hand for determining the question positively, it is certainly not safe to relax our quarantine under the latter period.

Of course thorough disinfection should be employed after the sick-room is vacated, but with these well understood points I need not go into details.

Having devoted so great a portion of this paper to the subject of antitoxin, it is proper that in closing I should reiterate the exact position which I consider it to occupy at the present time.

Antitoxin *is* an antidote to the toxæmia resulting from the absorption of the products of the Bacillus Diphtheriæ, but more cannot be claimed for it. Whatever it may accomplish is through this mode of action. It seems to limit extension of membrane. It does not cure sepsis. It does

not, except indirectly, relieve the obstruction in laryngeal cases. It does not repair cell degenerations which have already been established by the action of the diphtheria toxins.

This last fact, especially, shows the importance of early exhibition of the remedy, before such degenerations have taken place, and this, in turn, makes a prompt bacteriological diagnosis of every doubtful case a matter of great moment.

Antitoxin accomplishes what is not claimed for any other measure in the treatment of diphtheria, and, for this very reason, stress must be laid upon the importance of regarding it as *an addition*—a valuable addition—*to our other methods, but not as a substitute for them.*

Employing it thus, as a supplement to our treatment, may not furnish reliable statistics from which to judge of its value, but it will enable us to accomplish the higher object of the physician—the saving of human life.

412 *East Grace Street.*

Diphtheria Antitoxin Provided by California.

According to some of our Western exchanges, during the recent session of its Legislature, California made an appropriation for the procurement of sufficient diphtheria antitoxin to meet any probable demands. This is the first State to legislate on the subject. What States will follow the lead taken? The time is at hand when States must contribute the medicines for the cure of its sick, and not leave the provision to the charities of the doctor who gives his services to the poor.

"I don't see your husband with you so much as when you were on your honeymoon," said the clergyman, as he met an occasional attendant at his church. "Has he grown cool?" "Not if your preaching is true," she said coyly. "He is dead."

Art. II.—Some Exceptional Features in Cataract Extraction.

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Thanks to a perfected technique and aseptic conditions, the history of a cataract extraction has become, like that of happy nations, monotonously dull. A slight iritis, an occasional tardiness in healing, confinement in bed for one day or three at most, to the room for a week, and to the house for ten days or two weeks, is, in the general run of cases, all there is to record. Only in about 10 or 12 per cent. of cases are there more serious complications to chronicle, and in from 0.5 to 5 per cent. V=O is appended as finishing the history of the case.

And yet it cannot be said that the operation of cataract extraction is perfected, and that nothing more remains to be done. That in a certain percentage only of cases vision is made $\frac{5}{5}$, is not sufficient to satisfy the demands of science; it requires, moreover, that "V=O" be eliminated.

Again, a large number of operators—principally of the German school—still insist that a mutilation of the iris is necessary to the surest success. The capsule of the lens remains always as a possible cause of future trouble, and in at least 50 per cent. of the cases the occasion of a secondary operation with its attendant risks, if the most nearly perfect results are to be attained.

The ideal operation for cataract is an extraction of the lens in its capsule without loss of vitreous through an intact pupil.

The presence of the capsule in the eye after the removal of the opaque lens is a more potent factor in post-operative troubles than its simple structure would indicate as possible. In fact, we would be safe in referring 90 per cent. of the inflammatory troubles, in the iris particularly, which occur after operation, to the capsule. In the first place, it is almost impossible to entirely empty the capsule of soft

lens substance. The remaining corticalis swells, falls into the anterior chamber, except perhaps in some cases, where peripheral capsulotomy is done, and becomes a source of irritation. Bits of the transparent capsule may get into the wound and retard healing, thus making possible the entrance of germs to the interior of the eye. That the presence of the capsule plays a more important part in the production of post-operative inflammation than incarceration of the iris in the wound, is shown by the fact that in those cases where the lens comes out in the capsule with a loss of vitreous, and where there is almost of necessity a mass of iris left in the wound, the healing, as a rule, takes place with but little inflammatory re-action.

I will not here go into a discussion of the merits of the "simple" and "combined" operation. The choice between the two has come now to be a matter of judgment for each individual operator, and the confidence he has in his skill for the particular operation. For my own part, I have done the simple operation without iridectomy ever since the introduction of cocaine. I never voluntarily made an iridectomy in any case. If the iris is difficult to replace (which I usually effect by rubbing with the upper lid), or if it shows a tendency to prolapse, I make the iridectomy after the expulsion of the lens, which is as easy then as before its delivery. The size of the cataract I have found no obstacle in extraction through an intact pupil. A large amount of soft corticalis would lead me, if anything would, to an iridectomy.

Extraction of the lens in its capsules has been followed, I believe, as a fixed practice, by only one operator—Pagenstecher, of Wiesbaden. Others have given it a tentative trial, but finally abandoned it.

As a matter of necessity, we must, on occasion, however, take the lens away in its capsule if we are to extract it at all. This is notably the case where the lens is dislocated, either wholly or partially. Even where the lens is floating in the posterior chamber, it is possible to extract it successfully without the loss of much vitreous. Two such cases I

have reported in a paper published in Knapp's *Archives of Ophthalmology.**

There are other indications also for an attempt to extract in the capsule and through an intact pupil. Those I shall refer to now particularly are evident thickening and toughness of the capsule, and almost all forms of degenerated cataract.

In the latter, there is almost invariably a fluidity of the vitreous, and it is much easier to handle this with an intact iris than when an iridectomy is made; and besides, in most of these cases, the zonula is very weak, if not already broken.

In some of these conditions, particularly in dislocation of the lens, it is advised, in most of the text-books, to remove the lens by means of a spoon or scoop. This is unpardonably bad surgery. *A surgeon is never justified in introducing an instrument into the eye for the removal of a cataract.* A proper manipulation will succeed in delivering a lens in every case where delivery is possible. The introduction of a scoop or any other instrument into the eye only increases the dangers, both present and prospective.

It has been my exceptional good fortune to make lately three extractions of cataract in the capsule without the loss of any vitreous through an intact pupil, followed by perfect healing, thus realizing the ideally perfect extraction.

A short history of these cases is as follows:

Case I.—Mr. R W., aged 68. Right eye, he states, began to fail about two years ago. There is now a complete opacity of the lens in that eye; the capsule looks smooth, but the lens is evidently hard. Anterior chamber deep, pupil normal, and responds well to light. Tension normal. Extraction on April 13th, 1895. In making the incision, I noticed some movement on the part of the lens, and this was further apparent when I came to make the capsulotomy. The capsule was tough, and the whole lens yielded to the pressure of the cystotome. I knew from this that I had to deal with a ruptured zonula, and resolved to extract in the cap-

* Contributions to Clinical Ophthalmology.—*Knapp's Archives*, Nos. 2 and 3. 1892.

sule. I told my assistant, who was holding the upper lid (I never use a speculum), to be prepared to drop the lid as soon as the lens was delivered, expecting a gush of vitreous to follow its exit. The fixation forceps were removed, and with the back of the spoon alone I made gentle pressure backwards and upwards, while the patient looked strongly downward. The lens soon became engaged in the pupil and wound. The spoon was then made to follow, with gradually decreasing pressure, the lens as it passed out of the wound, and as soon as it was delivered the upper lid was dropped. Not a drop of vitreous escaped. When the eye was opened a few seconds later, it was found that the iris has returned almost entirely, and a little gentle rubbing of the lids was sufficient to make its reëntrance complete, with a round and perfectly black pupil. The wound was nicely coapted. As there is nothing left to guard the vitreous but the delicate hyaloid membrane, I deem it wise to be unusually careful of such cases for the first forty-eight hours. I enjoin perfect quiet, and use Ring's mask as a protector, to be constantly worn for the first three days and at night for a week or more. I am satisfied that many prolapses of the iris are due to self-inflicted traumatism on the part of the patient. The patient left the bed on the second day, and resumed it thereafter only for sleep at night. There was absolutely no pain, and nothing more than a slight hyperæmia of the iris, due to the stretching. On the fourth day, the pupil responded promptly to atropine, and the convalescence was uninterrupted. Already on the 29th, with + 10 S. + 3.180 V = $\frac{5}{18}$. The corneal astigmatism was 5 5 D, and, as is always the case after cataract operation, contrary to the rule. When the corneal astigmatism comes down to its normal degree, as it will in the course of three months, his vision will undoubtedly be $\frac{5}{5}$.

Case II.—M. K., a colored woman, aged 55, had lost the right eye from some inflammatory trouble, which left an almost total lucoma of the cornea, many years ago. She reported, when admitted to my clinic at the Emergency Hospital on April 26, 1895, that the left eye had began to fail only two or three years ago This, however, seems impossible, for the cataract which was present in that eye was evidently old, or at least showed such degeneration as we seldom find except in very hypermature cataracts. The lens was evidently shrunken, and the capsule was thrown into quite prominent folds, radiating from the center. The anterior chamber was deep and the iris was slightly tremu-

lous. The pupil responded well to light, and the projection was fair. The indications for extraction in the capsule were here imperative, and accordingly I determined to attempt its removal in the manner I have indicated in the paper before referred to. The lid being held by an assistant, the conjunction is grasped by the fixation forceps at some little distance behind the lower corneal margin, and as soon as the counter-puncture is effected considerable pressure is made with the forceps backward and towards the center of the eyeball. As the section progresses upwards this pressure is continued or increased slightly in order to tilt the lens forwards against the iris and hold it there. When the section is completed, the lens should be engaged in the pupil, and an increase of the same pressure is sufficient to deliver it. In this case, the lens, being somewhat shrunken and apparently totally detached at its upper portion, came promptly against the iris under the backward pressure with the forceps, and bulged it forward so that the knife, as it passed upward, cut a slice out of the iris about midway between the sphincter and the base. When the section was completed the lens had already entered the pupil, and a gentle increase of pressure caused it to pass through and out of the wound, the pressure being lightened gradually as the lens was slowly extruded. There was no escape of vitreous, and a little gentle rubbing with the lid reduced the prolapsed iris. The wound coapted nicely. On opening the eye on the third day, a complete healing was found, and there was nothing to retard the progress of a perfect convalescence. On examination with the ophthalmoscope, an extensive choroiditis was discovered, which made anything like good vision impossible, but she was able to get about alone and wait upon herself, which was an immense gain over helpless blindness. This choroiditis probably explains the origin and character of the cataract. The inflammation of the uveal tract led to malnutrition of the lens and its subsequent degeneration. There is usually also, in such cases, a fluidity of the vitreous which makes the absence of its prolapse in this case the more remarkable.

Case III.—B. A., a colored woman, 60 years of age, was admitted to my clinic October 1st, 1894, with complete cataract of the left eye. There was no satisfactory history of the case, nor were we able to find out how long the cataract had existed. The lens was milk-white, which was suspicious of *cataracta morgagni*, but there was no other appearance of degeneration. The iris was not tremulous, nor was

there other evidence of a ruptured zonula or displacement of the lens. In making the section, however, it became evident that the zonula was weak, and on completion a slight pressure was sufficient to deliver the lens in its capsule through the intact pupil. No vitreous escaped. It was seen then that the capsule contained a very small nucleus and a large quantity of fluid. It rolled about in the palm of the hand like a globule of mercury. The iris returned without difficulty, and the healing went on without accident as in the other cases, and the ultimate vision was good. Illiteracy of the patient prevented a thorough testing of visual acuteness.

These cases show the brilliant side of cataract extraction where art seems to have triumphed completely over nature; but there is, alas! another side which shows how futile may become our best endeavors, and which should impress upon us the fact that the last word has not yet been said in regard to the management of this most important operation.

That an operation has been smoothly performed and under the most approved modern aseptic conditions, is not an absolute guarantee that all will go well. That suppurations are rare—much rarer than before the introduction of aseptic methods—is true; but we have not, for all that, entirely abolished the possibility of infection. The danger does not seem to be passed when we have an apparently perfect healing of the wound, and the question of auto-infection is not by any means settled one way or the other. Of course, in the vast majority of cases, when the third or fourth day has passed without any serious symptoms, and the wound seems well coapted, we consider that we are "out of the woods," and are possessed of a sense of security as to the final issue. But occasionally we have an experience which shatters our faith in our assumed accurate knowledge of all the conditions attending the course of healing and renders our humiliation extreme. The following is such an instance:

Case IV.—W. T., white, aged 68. Had been operated on by me at Providence Hospital six years ago for cataract of the left eye with a good result—in spite of an incarceration

of the iris in the wound due, undoubtedly, to his restlessness. He was a very bad subject, and hard to control. When admitted to my clinic at the Emergency Hospital on April 2d, 1895, the cataract in the right eye was ripe, the pupil good, with all the indications for a successful operation. In spite of his want of control of himself, the operation was completed without any accident. The soft corticalis was removed without difficulty and the iris reëntered promptly, leaving a black round pupil. On the fourth day a moderate iritis set in. The lips of the wound seemed well coapted, but the anterior chamber was still shallow, indicating that there was a portion of the incision which had not entirely healed. The anterior chamber was restored in about a week, and in ten days the iritis had subsided, leaving three or four slight synechia. At the end of the sixteenth day after the operation, he was discharged. There was at that time no pain and but a slight injection of the conjunctiva around the base of the cornea. A week after his discharge, he returned with the pupil and the lower third of the anterior chamber filled with pus, the edges of the wound yellow, very pronounced chemosis of the conjunctiva, and much pain. He stated that this condition had developed suddenly two days before—that is, three weeks after the operation. He knew no cause for it, he persisted in averring, and stated that he had simply stayed quietly about the house. His general unreliability leads us to doubt this, and the probabilities are that he engaged in excesses of some kind. He was taken back in the hospital and treated rigorously. The edges of the wound were cauterized with formaline of half strength and a weaker solution (1 to 1000) used as a cleanser every three hours. Nevertheless, the cornea slowly melted away and a panophthalmitis set up, which ended in an abscess, which perforated behind the cornea on the outer side. The stump was removed as soon as the acute symptoms had subsided. On opening the eye after enucleation, it was found filled with pus. The healing was prompt, and he was discharged a week later.

This is the second eye I have lost from panophthalmitis after cataract extraction since the introduction of strict asepsis. The first one, however, could be referred to a removal of the bandage by the patient the first night after the operation, which gave opportunity for infection, and which promptly showed its effects on the second day. But

this second one is exceptional in my own experience, and my researches fail to show any other (though, of course, there may be such on record,) in which so long a time as three weeks has elapsed before suppuration showed itself. In the pre-aseptic days, I had one case in which suppuration occurred a week after the operation, and after the patient was up and about. In this instance, it followed an exposure to cold in severe weather in an unwarmed water-closet.

When, then, can we consider ourselves absolutely safe after cataract extraction? Wherein is the danger, and where does the enemy hide himself? It is certain that the germs got into the eye from some quarter. Did they enter at the time of the operation and remain quiet for three weeks? Did they get in through some open space in the wound which had not healed promptly, or were they carried there by the circulation? But whatever may be the explanation, the lesson we are to learn is that our precautions before, during, and after the operation, are to be increased in vigor if we are to eliminate completely the danger of suppuration after cataract extraction.

916 *Farragut Square.*

Pan-Peptic Elixir.

Theoretically, combinations of pepsin and pancreatin are incorrect, because pepsin is active only in an acid medium, its proteolytic power being destroyed by alkalies; and pancreatin, on the other hand, acts only in alkaline media. These data are founded chiefly upon test-tube trials; hence the apparent absurdity of combining two ferments, which are, in this sense at least, incompatible. The bald fact remains, however, that the use of these ferments in combination is sanctioned by many physicians who consider *results* a better gauge of therapeutics than any amount of *a priori* ratiocination. We have in mind several cases in which Sharp & Dohme's Pan-Peptic Elixir seemed to fill the bill better than anything else. While we have never heard "children cry for it," it is equally true that they never object to it. The delicate flavor of celery is certainly a happy thought. We presume that free samples can be procured from the manufacturers.

ART. III.—Conditions which Influence Health and Longevity.*

By C. F. MARSH, M. D., Pensacola, Fla.

As conservators of the public health, it behooves us to occasionally step to a higher range of vision than mere case observation and scan the plains of human activity, to gather more definite knowledge of the potential and active factors which are producing the evolutions of the time.

The social fabrics of the day must be the progenitors of the conditions of the next generation. While we are not posing as political economists, we are, and should be, the diagnosticians of those conditions—normal and abnormal—which are potential in influencing the physical and mental integrity of the people, such as habits of thought, methods of action, stress of responsibility, competition, hereditary entailments, acquired vices, use of stimuli, balance of activity and rest, adaptation of food to physical requirements, purity of water and air. All are such influencers of health and longevity, that we should not let the microscopical germs of tubercle and typhoid fever and scarlatina and diphtheria obscure our field of vision from their observation also. I shall not attempt to enter into detail, but only make this paper briefly suggestive.

What influence upon the present generation has the rapidly progressive impetus of competitive effort in every avenue of activity? Does living under high pressure shorten life, or are there compensative adjustments and adaptations in our system obedient to the laws of development, which we call evolution? Have the processes of food preparation made it easier for the economy to assimilate its pabulum? Do the modern methods of education conserve mental force and make the recipient stronger, more analytic, and better equipped for those mental contests, inevitably the lot of nineteenth century men and women? Are cerebral degeneracies more frequent? Is longevity effected disastrously? And to bring the question nearer

*Read before the Pensacola Medical Society, May, 1895.

home, What influence has the present high pressure living on the so-called nervous American?

These are pertinent questions—questions which must force themselves upon the contemplation of every thoughtful well-wisher of the race.

We hear pessimistic utterances of decadence of humanity on every hand, and pause to wonder if there is real foundation in the apparent discredit of the All Father's plan, implied in these forebodings. Does development come by alternate and rhythmical recessions and ascensions, or is there not rather steady progression from the lower to the higher—our limited capacities only preventing its true apprehension? From time immemorial each generation of men has been, to the near observer, more venal than its predecessor, less possessed of prowess and moral worth, and at times these opinions have seemed well based; but continuously out of these apparent decadencies has sprung forth the regenerate, moral and physical. And as we take a more comprehensive view of the past, we find a gain in all of those elements which constitute true advancement. We see references to the decrease in the size of mankind. While this is probably fallacious, yet, were it true, it is the observation of those most fitted to give judgment, that men of medium stature and proportional weight, have more physical endurance, more tenacity of life, and can accomplish more in a given time. Quality of fibre, rather than quantity, decide capacity. And as for mental acumen, I can but refer you to the long list of great names, past and present; scarce one of whom was above medium stature or weight.

While the intense competitive strife, in every activity of life, is a continual strain upon the nervous and mental integrity of the participants, and while paresis and other cerebral diseases seem to be increasing in frequency, and our asylums are full of wrecks of humanity, we must not forget that all of these unfortunates are brought to the public notice by a beneficent provision for their care and treatment in well equipped public institutions, while in the past they

were hidden away from observation in private obscurity and neglect. While cerebral lesions seem more numerous proportionally to population than in the past, in part it is only seemingly so. From other forms of disease there is great amelioration. I need not recall the plagues, pestilencies, black death and other scourges which swept millions from the face of the earth. Modern life, with its rapidity, intensity—knowing, seeing, hearing and feeling more in one year than the ancients did in a life time, harnessing the lightning to everything, from a sewing machine to the magnificent floating trans-Atlantic palaces, etc.,—has compensations and relaxations. Seasons of rest are being taken at the summer and winter resorts, peopled not only by the multi-million heirs, but by men and women of mediocre means. Diversions are indulged in; the value of amusements is being apprehended. The old puritanical conception of life is giving place to a more enlightened understanding of its duties and obligations.

Follies there are, and many of them, yet in the direction of follies there is less of the vicious and more of the frivolous; the consensus of opinion of the great masses is more pronounced against vice, more acclamatory of charity and virtue. The counter tendencies of fostered taste for luxuries, resulting from higher education of the masses; the crowding of immense multitudes of people into small areas in our large cities; the great financial crises occurring almost rythmically, throwing thousands into the unemployed class, combine to form cataclasmic reactions, sweeping humanity backward, apparently from its upward trend; apparently I say, for after the subsidence of the flood, we find that the inequalities are levelled, the poor are taught the greater value of industry and frugality; the rich have learned broader lessons in humanity; the philanthropic are quickened in their perception of the problems for the betterment of man. That law of the survival of the fittest has been operative in the destruction of the indigent vicious and the strenthening of the active frugal.

The millenium is not here; perfection is not reached. But

for what purpose in the great plan is this rapid development in the capacity for living? Why the immense strides in discovery and invention? Are they more than commensurate with the capacity of the genus homo of the age? No; a thousand times no. They are but the foot-rule of God's progress, measuring the growth of His sons. Social conditions will make wondrous strides to keep pace with the pace of material things. New adjustments will be made in all of its relations. Education will be more practical, as well as more ornamental. Men and women will be taught for vocations; capability and the natural tendency will be estimated as part of the youth's equipment for special life work. Men will comprehend what should be known, and see to it that their children are taught it. Physical education will be a rudimentary and supplementary pursuit with all. The earth will be so tilled that she will yield more abundantly; hence, food will be cheaper, all the essentials of life will be produced at less expense; more time will be allotted to the cultivation of the æsthetic. The psychology of crime will receive that attention its gravity demands, and wiser methods of treating vice and crime will obtain. The next generation will stand above us on the mountain of attainment; and with their improved facilities for progress, living in the higher sense, they will transmit finer mental and physical organisms to their descendants than they receive from us.

I have not, thus far, touched the current of purely professional progress. It opens such a broad stream of intelligent, far-reaching investigation, that to even tabulate the channels of its flow would compass many pages of statistical annals. Bacteriology alone might occupy our attention for many evenings; cerebral localization give us food for thought for much time; regional surgery engage us until our flagging energies cried for rest; pathology call to us from every hamlet in the land; new remedies distract us by their multiplicity, while germicides become almost regicidal. Every branch of professional study is broadening,

so that in only special lines can we hope to keep pace with the progress. The general practitioner is a necessity of the age, and will be such in small communities for a long time to come; but in the metropoli of every country, already specialists are claiming prestige in their various fields of labor, and this is but in accord with the time. The legal profession has pursued the same course. All the mechanical arts are so divided. To do one thing, and do that well, is the growing rule of life.

Dr. Joseph A. White

Has resigned the office of Secretary and Treasurer of the University College of Medicine, Richmond, Va. The duties incident thereto demanded more time than he could longer afford to give—having been a faithful officer during the full two years since the organization of the Faculties. He will, of course, continue his duties as Professor of Diseases of the Eye, and as Associate in the Chair of Diseases of the Ear, Throat and Nose, in which positions he has become very popular.

Dr. Paulus A. Irving,

Professor of Diseases of Children, etc., has been elected Secretary and Treasurer of the University College of Medicine, Richmond, Va., to take effect July 1st, 1895—Dr. Joseph A. White having resigned these offices. Dr. Irving, it will be remembered, was the Secretary and Treasurer of the Medical Examining Board of Virginia during his connection with that Board.

Dr. J. Allison Hodges,

Professor of Anatomy and of Diseases of the Brain and Nervous System in the University College of Medicine, Richmond, Va., is to be congratulated on the good reports received of his address during the recent Commencement Exercises of Davidson College, N. C. He remains, of course, Corresponding Secretary of the University College of Medicine, Richmond, Va.

Art. IV.—Blood-Letting in Asthma, Heart Disease, Puerperal Eclampsia, Pneumonia, etc.

By WM. M. HOLLADAY, M. D., Hampden Sidney, Va.

There can be no doubt that an agent, once abused, though of great merit, labors for a long time under a great disadvantage; this is surely one reason that now venesection is so rarely used as a remedy. Another reason is that so many new remedies of undoubted merit have been discovered that the profession has preferred to use them to the more ugly blood-letting, even though they do not, in cases applicable to both, have so good an effect. Then, too, we have forgotten this ready remedy, and cudgel our brains to get some medicament in its stead—such as veratrum viride, aconite, *et id genus omne.*

It is superfluous to say that there are cases in which no means of relief can be found at once, so quick of action, so safe, nor so readily controlled; and it is to be deplored that students are not taught to think more of this remedy of the ancients, and that practitioners do not more frequently apply it. For example, *in asthma of a sthenic type,* what will so quickly cut short a paroxysm, with the big-bounding pulse, the face flushed, the eyes suffused with blood? Do not give morphia, nor grindelia robusta, nor aspidosperma quebracho; do not increase a bronchitis and upset the stomach with fumes of pyridin—nor deplete with nauseants, such as apomorphia, cephalis, ipecachuana, and lobelia. Take a pint of blood, or less or more, as needed. The remedy is safe, quick, and your patient will bless you; if he has lived during the blood-letting period, he will beg you to bleed him.

Then, again, in *organic disease of the heart,* where the right side is engorged, the jugulars distended, the patient gasping for breath, there is no remedy so quickly helpful as bleeding, unless it be cupping, and that preferably, *wet!*

In that dreadful disease, *puerperal eclampsia,* it is a remedy by no means to be despised. The writer well recalls his first case:

Chloroform, chloral, morphia, had all been used; he was far in the country, and no assistance near or to be had; in desperation, bleeding was tried, with quick relief of convulsions and speedy delivery by natural means.

Not long after that, he saw a patient of Dr. J. D. Eggleston's, of Hampden Sidney, whom Dr. Eggleston had bled. When first seen, she seemed moribund, pulse 135, feeble, and thready; respiration, all kinds but good. She was again bled—a second pint—and with immediate and great relief of all symptoms; the pulse came to an hundred, and was of good quality. Owing to the exceptional largeness of the child, forceps delivery was necessary—of a living child—mother quickly recovered.

This case would have surely died had she not been bled. True, the writer would not recommend so heroic bleeding as did Dr. Dewees, in his *Midwifery*, who bled one woman 96 ounces. Dr. Dewees reports eight cases, with one death, in which death was due to cerebral hæmorrhage.

Veratrum viride seems to be the only treatment that presents half so good results as bleeding, yet other remedies are constantly used. Some of the cases reported by Vett seem to have died of opium poisoning

The record of cases treated by laparotomy shows the same results as those of Cæsarian section alone.

Bleeding has this advantage over veratrum: it relaxes the os uteri, and it sensibly diminishes the danger from hæmorrhage.

The writer has treated eight cases by means of bleeding, saved eight mothers and six children—one of the children had long been dead, the other was not viable. Dr. J. D. Eggleston tells me that he has treated over forty cases without a death by this method.

Some weeks since, the writer was called to see a woman about 55 years of age, very large and fleshy, whose husband had been awakened by the jerking of his wife. When the house was reached, the woman was in profound coma; before anything like an examination could be made, another hard convulsion followed. An hypodermatic injection of one fourth grain of morphia muriate was given so soon as the convulsion ceased; patient very stertorous; in about five

minutes another convulsion, followed by the worst breathing the writer has ever witnessed, save in a very profound narcotism from opium. Death seemed imminent. About 20 ounces of blood was taken from the median cephalic vein as quickly as possible, and by the time the wound was bound up the breathing was normal, and at the expiration of three hours the woman awakened well. The woman was not an epileptic; she had no kidney trouble; the spasms seemed to have been the result of an indigestion. Whatever the cause, it is the belief that she would have died within a very short space of time had she not been bled.

On this very imperfect record of a few cases, the writer bases his belief that bleeding has been, and is now, too much neglected as a remedial agent, and would beg his colleagues to bear the remedy in mind, and use it when a fitting occasion is found. Who can tell that the excess of deaths from *croupous pneumonia* now over past records is not due to the fact that venesection has fallen into disrepute. What physician has not seen sthenic cases of this disease that he believes would be benefitted by such treatment—better far than by aconite—which poisons the heart-muscle, leaves it with the same volume of blood to propel through a contracted conduit, and much weakened.

Then, too, are there not cases of *lobular pneumonia* with an engorged right ventricle and auricle—a laboring heart, with heavy apex impulse; a thin, wiry, weak pulse, and anxious countenance, that would be helped by blood-letting —taking just enough to relieve the right side and allow it to get a grip on the amount that it must pump. We should remember that it is not the volume of blood one has, but the volume ærated that does the work of the body.

As has been said above, old remedies are apt to be laid aside for new, and are not thought of when they are needed, and to recall this, one of the old and much abused, but, in its place, most excellent remedy, is the cause of this article. More cases in which it could be profitably used could be adduced, but they will readily present themselves to the reader.

Art. V.—Treatment of Gonorrhœal Rheumatism.

By J. L. A. BUECHLER, M. D., St. Louis, Mo.,

Clinical Assistant to the Chair of Genito-Urinary Diseases, Barnes Medical College; Consulting Physician to St. Anthony Hospital, etc..

To be rational, the treatment of gonorrhœal rheumatism must be administered according to the stage of the disease, and the condition of the patient.

When the attack begins a short time after the gonorrhœa is contracted, I would advise the following plan, as I have been very successful in treating the same: If pain is severe, give a hypodermic of morphine; wrap the affected parts in flannel wrung out of hot water, or apply a poultice as hot as can be borne; place the part on a splint, or in any way, so as to limit motion. Give a mild cathartic to gently open the bowels, and administer ten grains of salol every three hours, unless it affects the urine too much, which can easily be told by its becoming dark. Liberal nourishing diet may be allowed, and rest in bed enjoined. If injections are being used, stop them, or use very mild cleansing washes.

Salol does good; it lessens the general pains, combats the pyogenic condition present, and its elimination almost wholly by the kidneys, in the form of salicylic and carbolic acids, exerts a favorable influence upon the gonorrhœal discharge. Much the same may be said of salicylate of soda.

The test for both salicylic and carbolic acid is the same, and can be readily made, as Bartholow points out, by adding to the urine, suspected to contain them, drop by drop, chloride of iron, which, if either acid be present, soon strikes a fine violet color.

If the so-called rheumatism come on when the discharge is old, it will be necessary to treat the old pus secreting surfaces in the posterior urethra. If suppuration takes place in any of the joints, open freely and keep the parts clean by antiseptic washes, such as bichloride of mercury, iodide water, and peroxide of hydrogen; massage, and motion in latter stages.

After all this, many cases will improve slowly, but in the majority of cases satisfactory results will be obtained.

Art. VI.—Mental Suggestion as an Aid in the Treatment of Morphinomania.*

By SAMUEL H. GREEN, M. D., Oakdale, Ga.,

Surgeon-in-Charge of the Chattahoochee Brick Company's Branch of the Georgia Penitentiary, etc.

I shall not attempt to elucidate the mysteries of psychic phenomena, nor will I venture upon a discussion of suggestion which has been called the all-powerful factor in hypnotism, but rather beg leave to offer for your consideration a resume of two cases of morphinomania which I successfully treated, and in which I was greatly aided by suggestion:

Case I.—On September 10, 1893, I received into the hospital of the Chattahoochee Brick Company's branch of the Georgia Penitentiary Robt. D , white, age 35, who had been, according to his own statement, addicted to the morphine habit for over five years. The prison guard, who brought him from the jail, not being instructed by the county physician, refused to let him have the drug during the trip, and as a consequence, when he reached the hospital he was almost immediately seized with a violent convulsion. A letter from a reputable physician, who had attended him professionally during his incarceration in jail, stated that he was in the habit of using 400 grains of morphine a day. I restored the patient by hypodermatic injections, and ascertained that his stomach frequently failed to take up the morphine; and then he was in the habit of resorting to the needle. Hundreds of red blotches, which literally covered his arms and legs, bore out this statement. The patient said that he had been told that when he arrived at the penitentiary the morphine would be cut off, and begged piteously that it be not done.

After reflection, I decided upon a new line of treatment in this case; and in order to secure the patient's confidence, I resorted to diplomacy. I told him that he had been misinformed; that his supply would not be cut off, but that he had been addicted to the habit so long that he could not do without it, and that I would furnish him the drug as long as he remained in prison. As an earnest of good faith on my part, I gave him a little over three ounces of morphine in a bottle, instructing him to take it when he thought he

* Read before the Georgia State Medical Association in Savannah, Ga., May, 1895

needed it, and to come to me for another supply when he had used that. Promptly on the afternoon of the fourth day he asked for another supply.

In the interim, I had kept the patient under surveillance and in every way possible had fortified my already strong hold upon his confidence. I told him that the morphine I had had been on hand for several months, and when kept so long lost a percentage of its potency, and to counteract this loss of strength it would be necessary for me to make a solution and add another drug to the mixture. I took a quart bottle, filled it with water, and put 360 grains of morphine in it; of this mixture I gave him a tablespoonful three times a day, and placed him on a light nutritious diet. On the third day, the patient showed rapid, nervous heart. I told him it would be necessary to increase the strength of the mixture, and that I would give him a drug which, when taken into the stomach an hour after the morphine solution, would make the latter more effective. In the meantime, I had secured a quart bottle exactly like the one containing the morphine mixture, and, after filling it with water, had placed it in my medicine cabinet. When I noticed that he observed my actions, I took the bottle of water out, and putting about half an ounce of sulphate of quinine in it, set it away in the cabinet again. The patient smiled confidently when he saw me do this. I then gave him his regular dose of the morphine solution, telling him that the recent addition had made it extraordinarily strong. The patient concurred with me in this, saying that it tasted "awful strong." He complained that his legs and arms pained him like they did when he had been deprived of morphine on his journey from the jail to the penitentiary. I told him that it was caused by rheumatism, and that I would give him something that would cure that. I took a two ounce bottle, put four fluid drachms each of tincture of iron chloride, and digitalis in it, filled it with water, and commenced giving him ten drops three times a day. I had kept the patient on morphine mixture two weeks, when I commenced a further reduction by putting in a tablespoonful of water every time I gave the patient a dose of the mixture.

I kept him on this treatment, also the digitalis and iron, for four weeks, when I commenced to give him five grains of quinine in solution four times a day. Patient began to improve greatly, circulation became better, and his appetite increased wonderfully.

At the expiration of seventy-two days, I gave him the last dose of morphine mixture, which, under the reduction of one-thirty-second of a grain, each dose was virtually water, and had been so several days. The patient continued taking the quinine solution, believing he was still on morphine mixture. I kept up digitalis and iron, and in exactly four months from date of entrance to hospital he was doing light work in the prison blacksmith shops. Patient weighed 128 pounds when he arrived at prison, and six months from date of reception weighed 195. When I informed him that it had been some weeks since he had taken any morphine, he was greatly astonished, but after a while seemed much pleased, saying that he would never use morphine again as long as he lived.

The prisoner was pardoned by the Governor shortly afterwards, and went back to his home where he now pursues his avocation of blacksmith. I have received several letters from him, in which he says he thanks God that he is free from the habit forever.

Case II.—Edwin H., white, age 27, was admitted to the prison hospital on the 16th June, 1894. He had been an opium smoker for two years, and had then shifted to morphine, and had been addicted to the morphine habit over three years.

When I first saw him he was using about 380 grains of morphine daily. He had been an inveterate cigarette-smoker for over twelve years, and so excessive had been his use of them that on the first day of his admission to hospital he had two hæmorrhages from his lungs, losing nearly half a pint of blood. I stopped the hæmorrhage by giving elixir of vitriol 1½ ounces, added to 4 ounces of water, in half teaspoonful doses, in wine-glass of sweetened water, every hour. The patient realized that excessive cigarette-smoking had caused the hæmorrhages, and has never cared for them again.

The patient was a man of intelligence, and I commenced to secure his confidence by telling him that I sympathized with him greatly in his trouble, and that I would be pleased to do anything I could for him. He said he had been informed that in Pinel institutions it was customary for the physician to cut down the supply to morphine habitues in the shortest possible time; said he had been using opium and morphine so long that if he were denied his usual quota his shattered nervous system would not be able to

stand the shock, and that he would surely succumb. I concurred with him, and told him that as he only had to stay in prison twelve months I would supply him with as much of the drug as he desired.

In the interim, to counteract the effect of the two hæmorrhages, I gave him subcutaneous injections of five drops of digitalis and half a drachm of whiskey. I let him have his usual quota of morphine for four days, after which I made a solution of 360 grains of morphine in one quart of water, as in Case No. 1. I told him that on account of the hæmorrhages it would be necessary for me to make a solution of the morphine, so that I could incorporate another drug to increase its power; in order to strengthen him, I put him on four drachms of the quinine solution three times a day. I also gave him 10 drops of the digitalis and tincture of iron chloride three times a day. On the same day deduction of morphine was made, patient complained of pains in legs and arms. I gave him hypodermic injections of half a drachm of whiskey at intervals of six hours, keeping up the injections for three days; at the expiration of which time I ceased giving the whiskey and commenced giving him five grains of quinine sulphate four times a day. In the meantime, I had placed him on a light nutritious diet, occasionally between meals giving him a cup of malted milk.

The patient inquired if I had not reduced the morphine some. I told him that the medicine I had given him for the hæmorrhages had blunted his sense of taste, but that if he did not think it strong enough, I would add more morphine. I then went through the operation of putting quinine in a quart bottle of water where he could observe the action. The patient was immediately re-assured, and commenced to mend rapidly. When he had been on morphine mixture two weeks, I commenced reduction by placing in a bottle a tablespoonful of water for every one of the mixture taken out. Reduction was gradual, but he improved, and at the end of 62 days I told him he was taking water made bitter by a little quinine. He was surprised, but said he was glad that I had adopted that method of reduction. He weighed 126 pounds when admitted to the hospital—he, at this writing, weighs 185 pounds. He is now, April 1, 1895, hospital steward at the prison hospital, handles morphine almost every day, and is thoroughly cured of the habit.

To use his own language, he "becomes thoroughly nau-

seated when he thinks that he was ever addicted to the habit of using the vile stuff."

The remarkable feature in these cases was the enormous reduction from 400 grains in Case No. 1, and 380 grains in Case No. 2, in twenty-four hours, to 15 grains each in both cases in the same length of time, without any bad effect, except the rapid nervous heart and pains in the limbs, which disappeared like magic under the combination of digitalis and iron, quinine and suggestion.

Will you not concur with me, gentlemen, when I say that suggestion is a great aid, if nothing more, in the treatment of morphinomania?

I beg leave to say that I am much indebted to Dr. Wm. O'Daniel, ex-State Physician, for valuable advice in connection with the above cases.

Atlas of the Diseases of the Skin.

We are glad to announce the re-issue in this country by Macmillan & Co., London and New York, of this magnificent series of illustrations from original drawings, with descriptive letter-press, by H. Radcliffe Crocker, M. D., F. R. C. P., Physician Skin Department, University College Hospital, London, etc. All the recently improved processes in lithography have been employed in the publication of this *Atlas;* so that it will be of supreme interest to dermatologists, while, at the same time, it will prove of the highest value to all practitioners of medicine. It is comprised in sixteen fasciculi, Royal folio size—each fasciculus containing six full-page plates, etc. Orders will only be received for the entire series of fasciculi, issued bi-monthly at $6 a fasciculus. Seven parts are now ready.

Massage by the Blind.

The *Bulletin of Pharmacy*, June, 1895, says that, in Japan, massage is performed almost exclusively by the blind. Russia also has a large number of blind masseurs. Their delicate sense of touch is said to qualify them admirably for the work.

Art. VII.—Plural Pregnancy, Involving a Question as to Sire.*

By W. H. HARBAUGH, V. S., Richmond, Va.,

In the course of our practice, we are often asked a question difficult to answer; but the following case is of more than usual interest, not only on account of the question involved, but because it carries us into the ever romantic domain of obstetrical physiology. Many as are the ascertained facts in connection with the function of reproduction, there probably remains more theory and more speculation in regard to it than any other function of the animal economy.

The facts of the case are as follows: A brown mare, five years old, a pimipara, by Woodburn Hambletonian; first served by Norfolk, Nov. 22, 1888, but failed to get with foal. She was served again by Norfolk on Mar. 1st, April 1st and 10th. She was in heat again and was served by Egwood on April 30th. She was changed to the last-named stallion because her owner thought the first-named could not get her in foal. She did not exhibit any signs of heat after Egwood served her, and the owner considered her in foal to Egwood. At about what they said would have been near the regular time for foaling to Norfolk (the exact date I could not ascertain), she gave birth to twins; one was a chestnut, resembling Norfolk in every respect, well matured, born alive, but died within a day after birth—the other one was a bay, resembling Egwood, born dead, and showing plainly that he was foaled before maturity.

These particulars were given to me, and I was requested to give an opinion as to which one of the stallions should be credited with getting the mare in foal. I fully realized the importance of the question, and in order to impress upon you the importance of it, it is only necessary to remind you that it is a common custom in our State for stallion owners to guarantee to get a mare in foal, consequently the fee for stallion service becomes involved, and the case is liable to be carried to court.

*Read before the Virginia State Veterinary Medical Association, June 18th, 1895.

My opinion was that this was a case of superfecundation; that the chestnut stallion, Norfolk, was the sire of the chestnut foal, and that the bay stallion, Egwood, was the sire of the immature bay foal.

There should be reason in all things, and it will not be out of place to give reasons for the opinion expressed, and in doing so I will have to resort to theory, speculation, and analogy, as well as facts, pertaining to the various phenomena connected with reproduction.

Heat, or the period of œstrum in the mare, is analogous to menstruation in woman; but in the latter, the periods are more regular, as a rule, than in the mare. In the mare, there is also much irregularity as to the duration of heat—in some it lasts but a day or two, in others it persists for five or six days, or even longer. As regards the length of time between the periods there exists much difference in opinion; some observers say they occur every eighteen days; others say every three weeks, and still others say every nine days.

Stallion owners in our section request that mares be returned for "trial" every nine days. While we must admit that experience points to the fact that the mare is most sure to conceive if put to the stallion on the ninth day after parturition, it by no means follows that the period of œstrum occurs every nine days. After close observation of my own mares for years, I can set no exact time for the recurrence of the periods, and I must say they are very irregular, although I think every three weeks, during spring and summer, comes nearer being the rule than the other periods mentioned. In some mares the period ef œstrum is not accompanied by any signs manifest to ordinary observation, and in such mares it can only be known by "trying" them with a stallion.

The period of œstrum corresponds with certain phenomena in the ovary. At each period a Graafian vesicle is matured, from which is discharged an ovum. The mare being an uniparous animal only one ovum escapes, as a rule, at each period. When the Graafian vesicle is about

ready to burst, that part of the ovary where the vesicle matured is embraced by the fimbriated extremity of the Fallopian tube, and the ovum finds its way into the tube and thence into the cavity of the uterus.

The spermatozoa, the fertilizing element of the male, are ejected into the vagina of the mare during the act of copulation, and they find their way into the uterus and up the Fallopian tubes, and when they come in contact with the ovum fecundation results. Some assert that the ovum is fertilized in the uterus, while others think that it is fertilized even before it escapes from the Graafian vesicle, but the great majority of observers are of opinion that the ovum is impregnated while in the Fallopian tube on its way to the uterus. There can be no doubt that the spermatozoa ascend the Fallopian tubes, which is fully proved by the instances of extra-uterine pregnancy, such as tubal, ovarian, and abdominal pregnancies, and also by the positive fact of finding them there in a limited time after coition, as well as by finding the fecundated ovum in the tube. In some animals spermatozoa have even been discovered on the surface of the ovary in a comparatively short time after coition.

Then, after the ovum is fecundated, it descends into the uterus, where it becomes attached to the mucous membrane and undergoes the developments which ultimately result in an independent being.

The envelopes, as well as the embryo, in the mare, are formed from the ovum; the outer enveloping membrane is attached to the internal surface—the mucous membrane—of the uterus by the placenta. This external envelope is called the chorion. Within it is the allantois, one part of it adherent to the internal surface of the chorion and the other part loosely adherent to the external surface of the amnion. The amnion is the envelope which contains the fluid in which the fœtus is suspended. In the human female there is another membrane, called the decidua, which envelopes the chorion, and is formed by a modification of the mucous membrane of the uterus. There are

other differences in the human fœtal envelope, not necessary to refer to here.

When the fecundated ovum reaches the uterus, it must be remembered that it is not attached to the mucous membrane immediately by the placenta, as they are not formed till a later period. We may say, however, for want of a better expression, that the ovum becomes grafted to the mucous membrane, and is surrounded by a mass of albuminoid substance, from which it derives nourishment. As the ovum developes and enlarges, the changes gradually take place and the placenta of the chorion are formed and penetrate into corresponding depressions in the uterine mucous membrane, where the changes in the fœtal blood occur.

The foregoing review but briefly refers to the usual phenomena in the mare. Now we will take up the subject of twins.

Leishman goes into the subject of plural pregnancy in an exhaustive manner, and reviews the different ways in which twins occur. A single ovum may contain two yolks. Two ova may exist in a single Graafian vesicle, which may escape and be impregnated together, or successively. Two ova may form within two Graafian vesicles in the same ovary, or one in each ovary, the latter being proved by the simultaneous occurrence of pregnancy in each cavity of a double uterus, and by the existence of two corpora lutea in the same stage of development.

Most cases of twins occur when two distinct ova are impregnated, whether from separate ovaries or from two Graafian vesicles in the same ovary, or from a single Graafian vesicle. Each of these becomes imbedded in the mucous membrane of the uterus, and the decidua reflexa rises round it in the usual way. In the process of growth the two tumors approach each other and come into contact, the partition between the two fœtal cavities consisting of the membranes of each fœtus, respectively. As a rule, however, there is no vascular communication between them. Another, and very rare class of cases, is where there is a cho-

rion common to both embryos, but each enclosed in its own amnion. This is presumed to be the result of the impregnation of two germs within a single ovum—a double yolk. It is also said that two embryos occasionally exist in a single amniotic cavity, which is supposed to be of the same class as the last, only that the amniotic partition has been absorbed.

Fecundation, conception, impregnation, are terms applied meaning that the ovum has been fertilized by the male element—the spermatozoa.

Superfecundation implies that more than one ovum has been fecundated or fertilized in the same female at one time, or successively, within a limited time; that is to say, that one impregnation of an ovum is succeeded by an impregnation of another ovum in the same female within a short time after the first impregnation.

Superfœtation is often used to convey the same meaning as super-fecundation, but in this article I will restrict its use to such cases as seem to support the assertion that a second fecundation has taken place after a considerable interval, but during the same pregnancy.

The prevailing opinion is, that shortly after conception the uterus becomes hermetically sealed, and so remains till the end of gestation. The sealing of the uterus is effected, first, by a mucus plug in the cervix, and, secondly, by the fœtal membranes closing up the internal os uteri and the internal openings of the Fallopian tubes. When the uterus is thus hermetically sealed, as well as filled by its fœtal contents, we must admit that another impregnation is impossible, because the spermatozoa cannot possibly enter the uterus, nor can an ovum enter it from the Fallopian tubes. But this rule, like others, has its exceptions, as is abundantly proved by the fact that menstruation in the human female occasionally occurs during gestation, in spite of the mucus plug.

As a rule, the ovaries are in abeyance during gestation, but these same instances of menstruation in woman prove exceptions to this rule also. And we know of instances of

mares being in heat at intervals for months after conception. I know of one case where the mare took the stallion on an average of once a month till a month before she foaled a live, well-developed colt.

Menstruation is the external proof of the escape of an ovum from the ovary; and it also proves that the os uteri is not sealed when it occurs, and there are many cases recorded of women who menstruated for some time after conception. And, on the other hand, it is asserted that women have become pregnant without ever having menstruated.

Menstruation ceases, with rare exceptions, when the ovaries are removed, and we know that mares, cows and bitches rarely go in heat after ovariotomy has been performed. Hence, we may say that in those cases where the mare has been in heat, after conception, a Graafian vesicle has matured and an ovum has escaped, although, as a rule, we take it for granted that there has been no impregnation so long as the mare continues to go in heat and takes the stallion.

As a rule, then, after an ovum has been fecundated, the ovaries remain in abeyance, and there are no periods of œstrum till after parturition. In the case of normal twins, the ova become impregnated in the manner already explained. But occasionally a mare may have conceived, go in heat again, take the stallion and conceive the second time. Such instances come under the head of superfecundation, and there are numerous cases recorded that support the assertion, such as mares having horse and mule colts after having been served successively by a stallion and an ass. Bitches frequently have a litter of pups showing the different breeds of the different dogs they have taken during the same heat; but such cases are no more than ordinary conceptions, as the bitch is a multiparous animal, and the multiple ova that escape at one heat are as liable to be fecundated by the spermatozoa of one dog as another, when she is allowed to be indiscriminate in her desires.

There are many cases recorded of black women having twins, one child being black, the other a mulatto, after ad-

mitted cohabitation with black and white men. There are also cases reported of white women having black and white children at the same birth. The *Medical Record*, of April 27th, 1895, contains the following: "Amalgamated Twins. Dr. F. B. Heisordt (Journal of the American Medical Association), reports the birth of twins, the mother being a light-haired German woman and the father a negro. One of the twins was white and one black." No other particulars are given, and we are left to draw our own inferences. Those opposed to the doctrine of super-fecundation endeavor to explain such occurrences in women on the theory that one child takes after the father and the other after the mother, but such nonsense will not apply to the cases of mares having horse and mule colts.

Last winter I was called to treat the well-known mare Miss Lasitter, at Whitby Stock Farm. The day before she had slipped two colts, that were apparently the result of two conceptions with a considerable interval between them, one being about twice the size of the other. This mare was served by Norfolk on March 9th, 1894, after which she was tried to him and refused him six different times, and then she come in heat again and took him on May 21st. If impregnation followed each one of these copulations, and there is no impossibility connected with the idea, there was a difference of about seventy-three days between the two conceptions. Three hundred and twenty-three days had elapsed since the first service, and two hundred and fifty days since the second. She slipped the foals on January 26th, 1895.

Multiple pregnancies usually terminate before the full term, and is supposed to be due to the over distention of the uterus which excites contraction at an earlier period than in single pregnancies.

In the mare, 300 to 400 days are considered the extreme limits of normal gestation, while the average duration of gestation is from 340 to 350 days. Lord Spencer recorded the following observations: Of 102 mares—

3 foaled on the 311th day.

1 foaled on the 314th day.

1 foaled on the 325th day.
1 foaled on the 326th day.
2 foaled on the 330th day.
47 foaled between the 340th day and the 350th day.
25 foaled between the 356th day and the 360th day.
21 foaled between the 360th day and the 377th day.
1 foaled on the 394th day.

Between the extremes there is a period of eighty-three days, and even if the earlier ones are called premature births, there still remains much difference with the rest.

In cases of twins, where one is born prematurely and the other carried to full term, the immaturity of the first may be overlooked; but in the case of the mare Miss Lasitter, both being born at the same time, the immaturity of one was the remarkable point, as it was certainly not a withered fœtus, while the other was sufficiently developed to have been reared if it had been born alive. In instances of twins born alive, it must be admitted that very often one is better developed than the other—one may bestrong, the other weak and puny; and such instances are always cited in arguments against superfecundation and superfœtation. Physiologists say that it is exceptional that mature young are born earlier than usual, and that when the intra-uterine development is slow the fœtus is carried longer than the average time. This theory may be used to support different arguments.

I am of opinion that the case of the mare Miss Lasitter was another instance of superfecundation, and that the time between the two conceptions—seventy-three days—was the only remarkable thing about it. In the case of the brown mare, however, a question as to sire is involved, which makes the case doubly interesting. I am of opinion that she was impregnated by Norfolk on March 1st or April 1st, and by Egwood on April 30th, thus making an interval of one or two months between the conceptions. That each colt resembled his sire must not be considered a mere coincidence, because it is generally conceded that colts re-

semble their sires in color as well as conformation, and that fillies resemble their dams.

There is no physiological or anatomical impossibility in a second impregnation up to the time that the decidua reflexa and the decidua vera become intimately united in the human female, and there is no such impossibility in the mare up to the time that the embryo or fœtus so completely fills the uterus so as to obstruct the internal os uteri as well as the uterine openings of the Fallopian tubes.

In the uterus of a woman opened about the fifth week of pregnancy, the tumor is found in or near the fundus, projecting into the cavity of the uterus. The Fallopian tubes are open. The membrane covering the tumor is found to be identical in structure and continuous with the mucous membrane of the uterus. In the tumor is a cavity containing an impregnated ovum. This leads us to the formation of the decidual membrane. The impregnated ovum finds its way into the uterus from the Fallopian tube, where it remains free for awhile, and is then probably arrested in the convolutions of the uterine mucous membrane which gradually rises round it and unites, forming the decidua reflexa; the mucous membrane of the uterine cavity being the decidua vera. Hence, during this stage it is not an anatomical impossibility for another ovum to be impregnated, enter the uterus and develop along with the first. I can better explain the formation and development of the decidua on the blackboard. As the embryo enlarges and fills the uterus, the decidua reflexa and the decidua vera become united and most difficult to separate.

As I said before, superfœtation is defined differently by different persons; and Scanzoni, for instance, says that it must mean that superfecundation has occurred after the decidua vera and decidua reflexa have come in contact. If this definition is the accepted one, I must admit that I doubt very much if it ever occurs, simply because the cavity of the uterus is filled completely with its contents, and consequently there is little or no chance of the spermatozoa en-

tering the uterus and reaching the ovum in the Fallopian tube.

In the mare the decidua is not formed, but as the embryo enlarges, the chorion becomes attached to the uterine membrane gradually till the uterine cavity is filled, and also the horns of the uterus to a great extent, one, of course, being filled to a greater extent than the other.

I have here an embryo (preserved in alcohol) which was passed by a mare exactly four weeks after she had been served by the stallion. You will observe that it is very small, about one inch in length. You will also conclude that this small thing with its envelopes would not form a very large tumor in the uterus of the mare; certainly not large enough to fill the uterus and prevent the spermatozoa reaching the Fallopian tubes.

We are told that at the second period of development, towards the twenty-eighth day, the embryo of the mare measures about six lines; but here we have one about twice that length, and we know that it is certainly of not more than the twenty-eighth day, and may be less, as the ovum may not have been fecundated for a day or two after copulation. From the fifth to the eighth week is called the third period of development, during which time the embryo of the mare is said to measure a little more than two inches, which is not large enough to completely fill the uterus. The fourth period is given as from the ninth to the thirteenth week, and the measurement is said to be about six inches. From the fourteenth to the twenty-second week is called the fifth period, during which time the fœtus of the mare is said to measure about thirteen inches.

During any of the periods up to the fifth, I cannot see any anatomical reason why superfecundation cannot occur. The sixth period is from the twenty-third to the thirty-fourth week, during which the fœtus of the mare reaches a length of over two feet. The seventh, or last period, is from the thirty-fifth to the forty-eighth week, or till the end of gestation. The average length of a foal at birth is about three-and-a-half feet.

In human anatomy the impregnated ovum is called an embryo for the first three months, after which time it is called a fœtus. Therefore, I can see no objection to using the term superfecundation in those cases where a second fecundation has occurred within the first three months, and the term superfœtation in the cases where it is supposed that a second conception has occurred more than three months after the first one.

It is certain that the orifices of the Fallopian tubes remain open during the early months of pregnancy; it is certain that mares occasionally go in heat during pregnancy, and it is also certain that the function of the ovaries is not always stopped by pregnancy, and therefore there remains nothing but the mucus plug in the cervix to prevent a second conception, and this, we must admit, is not sufficient to bar the entrance of spermatozoa, especially when the organs of generation are excited by the condition called heat. Consequently, cases of superfecundation are not subjects of wonder, but the real wonder lies in the fact that more instances of it are not reported.

The doctrine of superfœtation would be supported by cases where one mature child is born, followed by the birth of another mature child months after the birth of the first one, and some instances seemingly of this kind are recorded. A woman at Palermo was delivered of a male child on November 12th, and on February 2d was delivered of another male child, both perfect. A woman was delivered of a girl on October 16th, well formed and apparently mature, and on November 18th another was delivered, healthy, and "showing no signs of over-maturity." I must remark that the reporter of this case does not inform us as to what signs we should look for in order to discover what he terms over-maturity.

Leishman quotes Dr. Bonnar, who "gives three cases all occurring in families of rank and position. In these cases, the intervals between the two deliveries were 182, 174, and 127 days, and all the children were sufficiently developed to be reared, and without exception, to reach maturity.

* * * * * We know that impregnation may occur within a very short period of delivery. * * * * * But in the case last mentioned, this would only give about four calendar months from an impregnation assumed to date six days after the last delivery, an age at which it would not be impossible to rear the child."

Superfœtation may occur in cases of extra-uterine pregnancy, as well as in females with a double uterus. A very interesting case is reported by Leishman as occurring in the practice of Dr. J. Harris Ross, of Scotland. On July 16th, he delivered a woman of twins of between five and six months growth. At this delivery he discovered a second opening to the left of the os from which the twins were delivered, which at the time he supposed to be an excavated ulcer. On October 31st a child, full grown, was delivered from this left opening, which proved to be the os of a corresponding uterine cavity. Examination disclosed a complete septum between the two cavities of the uterus. The woman had menstruated three times since the birth of the twins in July. Mother and child recovered. This case shows that an ovum from each ovary was fecundated, and that while a child was developing in one cavity the other cavity was performing its physiological function of menstruation.

While some of the foregoing instances are really only cases of superfecundation, some of them may be cases of superfœtation, but as yet superfœtation may be considered but a theory to explain some rare cases met with in obstetrical practice. On the other hand, superfecundation may be a fact in any ordinary case of twin pregnancy.

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Herpes on the Lips

During acute meningitis, is a sign that the disease is now tuberculous; but it is not always indicative of certain recovery, as it is in pneumonia and some other affections.—*Cincinnati Lancet-Clinic*, May 25th, 1895.

Art. VIII.—Diphtheria and Post-Typhoid Diphtheria.

By S. LUNT HANNON, M. D., of Washington, D. C.

During my connection with the Health Department of the District of Columbia as Ward Physician, I have had opportunity to treat clinically quite a large number of cases of *Diphtheria* and the so-called *Diphtheritic Croup.*

Among them was one accompanying typhoid fever in a patient 33 years of age, of a good family history. It was during the month of August, 1894, that I was called in to see this patient, after another physician had been treating him for the past ten days for typho-malarial fever. I found him with the characteristic symptoms of enteric fever, and treated the case as such—with good results—until the 25th day of the disease, when I was summoned to the patient by the nurse. He had had a chill; temperature had risen to 105.5° Fahr.

He complained of sore throat. On examining his throat, I found it congested, and ordered an ordinary wash of Listerine, glycerine, boracic acid, and water.

On examining the throat the next day, August 26th, 1894, I found a milky white exudation covering the uvula and the left pillar of the soft palate; also a patch on the left tonsil. I still had some doubt of the case being one of diphtheria. The patient, during the following twenty four hours, became very much exhausted, and I took a culture, which was afterwards carried by Dr. O'Mally, of the Health Department, to the Georgetown College (Bacteriological Laboratory), but the bacteriologist failed to find the diphtheria germ. The next day I took another culture, which was taken to the Army Medical Museum Laboratory, still they found no positive proof. I, however, had been spraying the throat with sulpho-calcine, a very strong germicide, and death to diphtheritic membrane; and perhaps it had something to do with the absence of the germ three days later. On the 30th of August, the patient coughed up a piece of hard substance resembling membrane, which I put in a glass tube, and at my convenience took to Dr. James Carroll, of the Bacteriological Laboratory of the Army Medical Museum; and during Dr. Reed's absence, he succeeded in getting a most satisfactory result, making a number of very beautiful microscopical slides, showing the Klebs-Lœffler bacillus to a degree of perfection. The following is Dr. Carroll's

Report of the Bacteriological Examination of a Piece of Membrane from a Case of Post-Typhoid Diphtheria.

On September 5, 1894, I received from Dr. S. Lunt Hannon a piece of coughed-up membrane, six days old, on absorbent cotton, in an empty culture tube. The piece was thin, thoroughly dry, and would measure about three fourths of an inch long by about three-eighths of an inch wide.

It was cut with the scissors into five pieces, which were dropped into several culture tubes of beef-tea and placed in the thermostat at a temperature of 40° Centigrade for two hours.

An examination of the membrane now showed it to be well-softened and very much swollen. A cover slip, prepared from one of the pieces and stained, discovered numerous flask and club-shaped organisms and a micrococcus. Several cultures on Lœffler's blood serum tubes were next made by smearing their surfaces, under the usual precautions, with portions of the softened membrane. These cultures were kept at 40° C.

On the following day, examination of the serum cultures gave abundant staphylococci, a few individual cocci much larger than these, and a few bacilli that were almost unmistakably Klebs-Lœffler organisms. They were not sufficiently numerous, however, for a good practical demonstration, but after a careful search, I found a place where this particular organism had crept around the edge of the serum (which was several months old and very dry, and had detached itself from the wall of the tube), and from this spot I obtained a typical picture of the bacillus diphtheriæ.

To determine whether or not the organism was pathogenic, a small portion of the cut membrane, still in the bouillon, was placed under the skin of the abdomen of a guinea-pig, and for the purpose of obtaining the organism in pure culture, glycerine-agar plates and fresh serum cultures were prepared from that portion of the growth on serum, which apparently gave a pure culture of diphtheria. The cultures were incubated and examined next day. The results were not very satisfactory, the bulk of the growth being still staphylococcus pyogenes aureus, with the characteristic golden color on agar and serum; the Klebs-Lœffler bacilli were relatively few and nowhere in pure culture. This transferring from one serum tube to another was repeated until the 13th, when I at last succeeded in obtaining a pure culture of the organism on that medium. I was much struck by the persistency with which the aureus outgrew the diphtheria ba-

cillus—theoretically, the contrary should have resulted. I tried, by making numerous strokes with a minute quantity of material, to secure as many isolated colonies as possible, taking it from those places only where the diphtheria organism seemed to be most numerous. I succeeded at once with the aureus, and failed for some days with the other organism. These results I can only attribute to the condition of the blood serum used, which was several months old and very much dried out.

In the meantime, the guinea-pig, after twenty-four hours, showed a circumscribed blush through the shaved skin at the seat of inoculation; and beside this, the animal was observed to be sluggish. On the following day, the blush was more marked; the animal was evidently weak and sick; he showed a great indisposition to move, and had ceased to eat. On the morning of the third day (Sunday), at about ten o'clock, I found he had been dead some hours.

Autopsy.—There was a notable absence of membrane at the seat of the wound, explainable perhaps by the fact that the portion of membrane with which he was inoculated had been pushed into a subcutaneous sac or pocket made 15 mm. or more from the external opening. Adhesion had occurred near the outer wound, with the result probably that the organisms were shut off in an enclosed space. The fact also that the piece of membrane had been in bouillon twenty-four hours, where it must have been pretty well washed off, might explain the non-infection of the outer wound.

There was a good deal of subcutaneous œdema over the whole of the abdomen, and at the site of inoculation the abdominal muscles showed a localized inflammatory congestion. The inguinal glands on that side were enlarged. The liver was engorged, but no fatty or necrotic foci were visible. The kidneys were congested, but not markedly changed; the spleen was almost normal. The abdominal cavity contained a considerable quantity of a reddish serous fluid, part of which came from the pleural and pericardial sacs after they were opened. The appearance of the lungs was peculiar. They showed localized areas of congestion irregularly distributed through both of them. Glycerine-agar plates were prepared from the blood, and all the organs but the bacillus diphtheria did not appear in any of them. Lœffler's serum tubes were inoculated from the same sources and from the deeper portion of the wound. From the latter, I obtained the staphylococcus pyogenes aureus and a pure culture of the Klebs-Lœffler organism after four or five days.

When we consider that the piece of membrane used was quite small, not more than one-fourth of an inch square—that it was well-macerated in bouillon for twenty-four hours, and that the guinea-pig can dispose of a small quantity of the staphylococcus pyogenes aureus without difficulty, the animal's death must clearly be attributed to the Klebs-Lœffler bacillus, which was present in the membrane used, and which was recovered in pure culture from the inoculation wound.

I have embedded portions of the lungs, kidney, spleen, liver, heart, muscle, and tissues, from the wound site, for further examination when time will permit.

JAMES CARROLL, M. D.

415 *H Street N. E., October* 5, 1894.

I shall have to ask the modern *Æsculapius* to pardon me for upholding some of the old treatments in diphtheria. I shall also differ somewhat as to the diagnosis of this most dreaded disease. I have heard it said that diphtheria was very easy to diagnose. I must dispute it, for experience has taught me that it is very difficult to diagnose the disease, especially where the membrane is not visible, and toxæmia creeps upon the patient before we know what we are dealing with. I have seen a number of cases of diphtheritic paralysis following the hasty diagnosis of *folicular tonsilitis* and the ulcerated *sore throat.*

There have been theories regarding this most tedious and fatal disease since Bretonneau created the name in 1826, and a great deal has been written concerning this disease and the treatment of it. It has been described under many names, without, however, appreciation of its distinct character, by Hippocrates, Celsus, Sydenham, and others, from the dawn of medical history to the present day.

Croup, in cases named and described by Home, Cheyne, West and others, is identical with Bretonneau croup, which he also calls tracheal and laryngeal diphtheria. The causes for the disease are the concomitants of poverty, filthy lodgings, scanty clothing, and imperfect alimentation, and all similar receptivities, and in all cachectic subjects. Those who have had scarlatina, measles, and whooping cough are more predisposed to the disease than others.

Diphtheria occurs one in every six cases as a secondary disease, and runs its natural course in eight to ten days. Complete and rapid recovery often takes place, not only without medical treatment, but also in spite of the most objectionable means having been adopted; and on the other hand, I have known it to set in suddenly with intense symptoms and carry the patient off in one day. There can hardly be any certainty as to the incubation of diphtheria; it may be a few days or weeks. The invasion of the disease is generally insidious, general discomfort, languor, rigors, hoarseness often usher in diphtheria. The invasion symptoms are sometimes so slight as entirely to escape notice, or it may suddenly explode without the slightest warning, and in looking in the throat we may then find the characteristic membrane. The patient is sometimes carried off before any exudation has taken place, dying from profound exhaustion, from primary toxæmia. Diphtheritic poison kills in many cases without producing the diphtheritic pellicle. Prostration of strength is never absent in diphtheria. Albuminuria, enlarged glands and paralysis are more or less absent. I was once told by a physician of standing that albumin was present in a large number of cases. I must differ with my professional brother from experience. I have found albumin absent in many cases, but it is generally looked for. It does not necessarily indicate a morbid state of the kidney. It is often intermittent, and its intensity varies at different periods in twenty-four hours, and not associated with dropsy, as in scarlatina. It is not a sign of danger; its prognostic significance belongs not to itself, but to its cause or causes.

Diagnostic difficulties in diphtheria are great; it sometimes proves fatal too soon to afford sufficient time for the manifestation of its characteristic symptoms; and also, when the invasion stage is insidious, it seems to me dangerous to wait for the membrane, which will always form unless the patient is cut off very rapidly. The diphtheritic nature of a disease cannot be disclosed with certainty until the membranous deposit has made its appearance; and then, with Lœffler's blood serum tubes, which at present seem to me

to be as indispensable in the diagnosis of diphtheria as the wheels are to a watch, with a culture tube, microscope and other conveniences, a thermostat, and so forth, we should have no trouble. But what are we going to do in our out-of-way districts, where it is impossible to have these advantages? Why, of course, stick to the best of the modern treatments. Few diseases tax the ingenuity and therapeutic resources of the physician more than diphtheria. He has to carry out many details—hygienic, dietetic and medicinal. The treatment should be on a rational basis. Decided measures should be carried out to support life. I have found good results from large doses of alcohol. Easily assimilated food is of great importance. Medicines of a depressing influence on the nervous system should be strictly avoided; also the use of alkalies and mercurials. The patient should be lightly covered, avoiding the loss of animal heat. The room should be well ventilated. Avoid currents of air from coming in contact with the patient. The diet should be given frequently. Brandy, milk and beef tea frequently, say every two hours. In children I have found it injudicious to press food upon them in spite of their struggles; and is sometimes even dangerous, as the excitement and resistance takes more from the already weakened patient than can be gained by such a procedure. Instead I have found good results from enemata of beef tea, brandy and milk.

In case of extreme prostration in diphtheria, alcohol is imperatively demanded. In young children, where nourishment cannot be administered by the mouth, the enemata should be resorted to and kept up, diligently. Be sure that you are nourishing the patient, by all means. Nausea is a troublesome symptom in true diphtheria, and as the category of remedies is quite large, I shall mention only a few. (Ice, lime water, brandy, and camphor water I have used with advantage). I have found emetics of little service in the detachment of membranes, and they many times do more harm than good, prostrating the patient and doing evil.

I have found good results from peroxide of hydrogen and sulpho-calcine; and when it is impossible for the patient to

have the benefit of the antitoxine, I can recommend the spray of sulpho-calcine and peroxide of hydrogen every hour alternately as indispensable remedies. I have found good results from the sulpho-calcine used by inhalations ʒiv to quart of boiling water. Inhale from five to ten minutes. I have also had good results from trypsin. Used externally is a liniment of soap and chloroform which I have found very soothing.

Internally, sulph. quinine and tr. ferri chloride has proven a most useful remedy. I cannot say much for tracheotomy, for all surgical operations in diphtheria are of little use. It is hard to determine how far the membranous obstructions have entered the air passages, and that last chance afforded by tracheotomy often kills the child. Intubation is far preferable, but it carries with it danger. In the hands of an inexperienced operator it is difficult to insert, and if not in the hands of an expert should never be used. I once saw a very bright child killed by the frequent attempts of a new beginner in trying to insert the tube.

We will have to apply *civil service* to some of our old methods of treating diphtheria, especially in our country districts. If possible, the doctor should not leave the bedside of a malignant case of diphtheria more than three or four hours before he returns, for many changes may occur in that time. I believe that too much dependence is often placed in the nurse, and often we loose cases because we do not know what has occurred during our absence.

As to the prognosis, I can say nothing.

I have had the pleasure of seeing the antitoxine used under the direction of Dr. Kenyon, of the Marine Hospital service, in an adult patient with good results; and as the diagnosis of diphtheria has been made by the discoveries of Klebs and Lœffler, and the curative and preventive agent found in the way of an antitoxine by Koch, the medical profession of the world should lovingly clasp the trio to its bosom and welcome them as its dearest possession.

I had nineteen malignant cases, with four deaths; thirty-seven uncertain or non-malignant cases, with two deaths.

200 *D Street, N. W.*

Clinical Reports.

Case of Treatment of Venomous Snake Bites.

By ALVAH STONE, M. D., Worth, W. Va.

As warm weather approaches, some of our medical brethren will have to treat venomous snake bites.

I wish to mention a case of the kind, and its treatment, that occurred in my practice last summer. If the idea of treatment will help any practitioner out of a difficulty, I will feel fully rewarded for this report. We who live in the mountainous countries have to keep posted on such emergencies.

A healthy, robust negro, known among his associates as a "snake charmer," while playfully handling a large ratler, was badly bitten in the web between the left index finger and thumb.

The man had presence of mind enough to at once apply a tourniquet at the middle of the fore-arm.

I saw the case about half an hour after he was bitten. On examination, I found two distinct wounds made by the fangs of the snake. Œdema of the arm and hand up to the tourniquet was very intense; pain excruciating; very little bleeding from the wound; the general expression of the patient was one of intense agony.

Now, as to treatment, the first thing was a hypodermic of morphia for relief of pain; then I began at the tourniquet and rolled an Esmarch's bandage, as tight as I could draw it, down to within one and a half inches of the wound, and, with a small knife, perforated the hand over the back and immediately around the wound. Then, with the hand swinging down, allowed drainage to go on for twenty minutes.

I gave the patient one twenty-fifth grain sulphate strychnia hypodermically just above the tourniquet; waited about two minutes for absorption of the strychnia; then removed all pressure, and allowed free circulation to be established.

The patient suffered very little pain after this; made a complete recovery, and resumed his occupation as coal-miner within a week.

The after-treatment of the wound was slight elevation of the hand and antiseptic washes.

Anchylosis Following Typhoid Fever.

By J. EDWARD COX, M. D., Richmond, Va.,

Resident Physician in Sheltering Arms Hospital, Richmond, Va.

The following case may be interesting to the profession, especially because of the etiology, pathology and symptoms. The case is one I had occasion to study during a recent service in the female wards of the Sheltering Arms Hospital of this city:

A widow lady, aged 52 years. She gave birth to two children while quite young. She came from Luray, Va., and was admitted to the hospital April 18th, 1895.

Her general health was good; she slept well; had a good appetite; suffered no pain, and her bowels were in a normal condition. She had a severe attack of typhoid fever during an epidemic in the fall of 1891—being confined to bed about seven weeks with no relapse. After a short period of convalescence, she was well enough to attend to her domestic affairs for about three weeks, when, very suddenly, one morning, after taking slight exercise, the muscles of her legs and arms became very weak. Unable to stand alone, she was forced to assume the recumbent position in bed for relief. After being confined to bed for about three months, she again became strong enough to walk, and for eight months was apparently well.

In November, 1892, she was taken with a severe case of acute bronchitis, being confined to bed for three weeks. At the end of this time, on attempting to walk, she discovered that the extensors of the thigh were so weak and relaxed that she was unable to maintain the erect position. After making the attempt for several days, and becoming very much exhausted, she was again forced to resort to bed for comfort; still she suffered no pain, and her general health was good. For a short time, there was no deformity of the limbs, nor were the muscles of the arms at all affected; but gradually the extensors became more and more relaxed, while the flexors became stronger, which caused an angular deformity at the elbows and knees.

At the time she entered the hospital, the tibiæ and fibulæ were drawn almost at right angle to the femors, being scarcely able to move the joints without assistance. On forcible extension, the tendons of the biceps, semi-membranosus and semi-tendinosus could be felt very hard and

tense at the popliteal space, while the rectus femoris, sartorius, and the two vasti muscles, could scarcely be felt, even while being stimulated by a strong faradic current.

Her parents were born and raised in Page county, Va., were extremely healthy, and died near the age of 80 years. She has two brothers and two sisters, who are now living, and in perfect health.

On April 20th, we took the exact dimensions of the deformity. Careful measurement from the anterior superior spine of the ilium, down the outside of the thigh and leg, to the most prominent part of the tuberosity of the os calcis, showed a distance of 26½ inches on the right side, and 24¼ on the left. These measurements were taken while the leg was forcibly extended by an assistant.

Under the direction of Dr. Moses D. Hoge, of Richmond, I began the use of massage and passive motion twice a day (9 A. M. and 8 P. M.), at the same time applying the faradic current along the extensors, for fifteen minutes, as strong as I thought necessary. For the first few days, the joints and muscles became quite tender, but only for a short time. After about two weeks, she began to gain some strength in the extensors, and with some difficulty she could carry her arms behind her and assist in dressing herself, and could slightly extend the legs without assistance.

At the end of one month, I again measured the deformity, as described above, which showed a gain of two inches on the left side, and one and a half on the right. Her general health is still good; the joints are not at all tender, and as she can now assist me, to some extent, in giving the motion, it is probable she may continue to improve.

During the same epidemic of typhoid fever in 1891, her oldest son was confined to bed with fever for about six weeks, and for a short time suffered with the same condition about the joints that his mother has, but being a very strong and active man, made a complete recovery in a short time.

Dr. A. Vander Veer, of Albany, N. Y.,

Has been elected to the Board of Regents of the State University of New York.

> "All medical doctrine on this day,
> We will happy throw away.
> Hippocrates better close his eyes
> When Summer's sun warms up the skies."
> —*Cincinnati Lancet-Clinic*, May 18th, 1895.

Correspondence.

"Is Malarial Fever a Reflex Neurosis?"

Mr. Editor,—It is not always that one's crude ideas are so kindly and gracefully handled, and with kid gloves, as were mine* in your May issue, by Dr. Wm. S. Stoakley. It is a pleasure to see that his mature judgment, in the main, agrees with them, and, virtually, demurs very little at the ideas brought forward.

That the atmosphere is a mode of conveyance of the poison of malaria is true. I do not think it is retained in the atmosphere for any length of time, as I think dry atmosphere is not favorable to micro-organisms.

Another idea, which he makes more clear, is that malarial fever is a shock to the nervous system. It will be admitted that shock is produced by an influence outside, or distinct from, the thing affected. Inflammation is said to produce shock, but inflammation is not shown except after repeated attacks of congestion. Hence, in the early stages, malarial fever is, so to say, a functional disorder of the nerves.

Just at this point, twenty-odd years ago, is when originated my idea that a sedative rather than a stimulant was the proper treatment. In every other form of shock, stimulation is not the rule, and common sense says try and lull the excitement.

During these years, I was on the look out to prove up my idea. In the adult, I could use chloroform or chloroform water, which would bring on the sweat in half an hour, but children could swallow it with difficulty and infants not at all. The acetanilid, devoid of smell, with comparatively no taste, the dose small, seemed to me the thing needed. I may say, I have not been disappointed in it.

As to the change from "ague" to "dumb" form, I have asked myself if it could be caused by some mode of immunization, not that the cause has changed in character or

* Published in *Richmond Journal of Practice*, December, 1894.

virulence, or that the effects on the system are lessened thereby, but can it be supposed the system has become able to ward off that intense chill—the ague. It does not seem to have mended matters much, as the dumb form is more dangerous and painful.

This is only an idea; may be wrong, but a better one would be in order.

In advising the acetanilid in treatment of chills, it is from my standpoint, viewed after about four years of careful study —not as a "knock out" of quinine; so the friends of the quinine treatment will not be called upon to act on the defensive.

In my section there are many who cannot use quinine at all. One case, the tongue becomes tremendously swollen, so that articulation is impossible. This follows on a three-grain dose, and in less than one hour. In five cases urticaria follows, less than three grains. Two are afflicted as if clouds of smoke were passing before the eyes, and supra-orbital pain; in several, more or less by hæmorrhage from bladder, with pain; in about forty per cent., noises in the head, loss of taste, impairment of sense of hearing; in six, the sense of smell is nearly destroyed for several hours, together with some other of the above senses. Now, to such as these the acetanilid is a boon, the action required being prompt, with no unpleasant sequel.

The doctor's reminiscence relative to "ipecac" brings to mind to me, a laughable circumstance. A good friend of mine (the same who applied "raw turpentine on a flannel cloth to my head, swollen and blistered all over with erysipelas), was praising to me the effect of the mixture. It is simply splendid, try it on your next case." My next case was a Mr. "A.," who was painfully afflicted with stuttering. I gave the mixture in the exact amount prescribed, and, as is my custom when experimenting, stayed to see the effects.

Effects! Well, what between the nausea and vomiting, coughing, roaring, shaking his fist and ineffectual attempts (owing to his infirmity) to make himself understood, I believe the "sphynx" would have rolled off its base in con-

vulsions. I had to get outside to relieve my distressed sides. As my doctor friend said, it *was* "simply splendid," but "A" never forgave me.

"Experience is a good teacher." While living in Mississippi I had my first tussle with chills, the "regulation shakers." My doctor prescribed heroic doses to act, I suppose, on the theory of a sedative; made up then twenty-five-grain powders. I took two of them, the third I have no recollection of. Fifteen hours afterward I woke up from a dream, perhaps, to find three men in shirt-sleeves sitting around my bed, who said they had "been for several hours trying to keep you on the bed; you were as crazy as a bedbug." I found my clothing soaked with blood passed from the bladder, and saturated with sweat; myself so weak I could not turn over. With the present lights, I am still disposed to believe this may have been an extra touch of the sedative effects of the favorite.

Loth to disbelieve the assertions of the wiser heads of the profession, I have since tried ten-grain doses, with similar effects, on others. It may be the difference in the constitution of the patients, or of locality; let this be as it may, here acetanilid does not produce such effects. I have before me letters from several States. Dr. Wm. H. Burgess, of Chattanooga, Tenn., writes: "I received a letter from the lady in North Carolina of whom I wrote you. She says your acetanilid treatment is splendid, and that she has been clear of her trouble, or nearly so, for three weeks. That is another line the recording angel has written for you, for I should never have thought of it. I added a little soda and strychnine to it, and it *does the work*." The others are much the same.

I still think the drug will be a great relief to the many, the large majority who have to take it, who look upon the *effects* of quinine as equal, if not worse than, "the terror" it is called up to cure.

Very truly, BEN. H. BRODNAX, M. D.,

Brodnax, La., May 29th, 1895.

Chloroform in Labor.

CINCINNATI, OHIO, June 10, 1895.

Mr. Editor,—In my article, "Chloroform in Labor," in your issue of February last, I stated that "we have on record about forty cases where death took place during the administration of chloroform in labor." The word "record" was not intended. If I could have found such recorded, I would gladly have given them along with my paper.

My information was not through a recorded way, and I do not believe that cases dying *during the administration* means that they die *from the chloroform.* I stated that in giving chloroform "*push it to the point of relief*"—be that in primiparæ or multiparæ—and I think this covers the ground.

So thoroughly am I in accord with giving chloroform in labor, for reasons stated in my article, that I wish that every practitioner doing the obstetrical art would duly consider its importance.

The progressive female members of our ranks are gaining ground rapidly in obstetrics, for the reason that they are advocating chloroform stronger than the male members. "A hint to the wise *should* be sufficient."

415 *Broadway.* EDWIN RICKETTS, M. D.

A Case of Diabetes Insipidus Graviditum

Is reported by Dr. W. H. Haynes, of Brooklyn, N. Y., (Brooklyn *Med. Jour.*, June, 1895). Attention was first called to this complication of pregnancy by Dr. Matthew-Duncan (*Obstet. Trans.*, Vol. XXIV, p. 256), but his fifteen cases were of saccharine variety. Dr. Haynes finds no other reference to the *insipid* form occurring during pregnancy than in Pepper's *System of Medicine*, Vol. IV, p. 31. No special treatment is recommended. As in other cases of diabetes graviditum, the symptoms all passed off after labor, and did not occur in the second pregnancy, two years afterwards.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary; Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va.

[CONTINUED FROM THE JUNE NUMBER, PAGE 321.]

Results of the Operation for Strabismus.

There are no laws that will bear out such a statement as this; nor do Schweigger's own words, nor the reports of his cases as given by himself bear out his own statement. For only a few lines below, he says, "an imperfect result can be supplemented by tenotomy on the other eye." And when this result is imperfect, what then? More unregulated, unscientific, "simple tenotomies"? Schweigger's explanation of the above statement is as imperfect as the statement itself—"the explanation being that the maximum of deviation is rare, and that these cases, with but slight deviation, could at other times squint to a greater degree." This is no explanation at all. Each case of strabismus has its own peculiar secret; has its own red thread, which if correctly followed under the guiding hand of the laws regulating the movements of the eyes, will lead us to an understanding of what in each case should be done. To say that "the first necessity in periodic squint is tenotomy," with the implied understanding that the tenotomy is to be of the internal or external rectus, is very much like saying that the first necessity of fever is quinine. There are cases of periodic squint in which the squint disappears permanently without any treatment whatever; there are cases in which "simple tenotomy" of an internal rectus can only do harm; there are cases in which the squint disappears after simple tenotomy has been done; but, although this be true, it does not prove that "simple tenotomy" was the cause of its disappearance, which may have come about in spite of, rather than because, of the "simple tenotomy." Schweigger reports a case in which, "notwithstanding tenotomy of internus and

advancement of externus in the squinting eye, and later tenotomy of internus in fixing eye, the result was slight!" (Exclamation mark Schweigger's—J. D.) Had there been a careful examination of the condition of the superior and inferior recti, this case in all likelihood would have been operated on differently, and the exclamation mark would have been absent.

Further on still in Schweigger's article, he says, "Vertical deviation occurs most often with lateral, and disappears after the removal of the latter. Hence it is not surprising that after the operation for convergent squint, especially we see a vertical deviation which before was not observed or did not exist. The frequency of this occurrence has originated the rule that with vertical and lateral deviation, the latter should first be attacked. If the former remains, it may be operated upon separately. Two muscles, a rectus and an obliquus, being concerned in vertical deviation, the former alone being accessible to operation, if we tenotomize either the superior or the inferior rectus two antagonists have an influence on the result, so that uncertainty ensues." Such are Schweigger's teachings in regard to "upward and downward squint"! While it is possible to imagine an internal rectus so developed and so abnormal in its insertion that overaction on its part would cause upward squint, it is little likely that the upward squint "occurring with lateral" often has this as its cause. Nature has given the eye two muscles, the internal rectus and superior rectus. The action of the former is to adduct the eye, the action of the latter is elevate and adduct. Overaction on the part of which of the two would be the more likely to cause abnormal elevation of the eye and at the same time adduction? The superior rectus. This is the bare statement of the case, and one which must hold in the presence of the combined actions of the various muscles of the ocular system. Where we have a vertical as well as a lateral deviation, the more important for our consideration is the vertical. George Stevens has called attention so carefully and thoroughly to this point, that it remains a matter of wonder to those who have

carefully considered his teachings that the European authorities have, it would appear, so persistently declined to recognize the important part played by vertical deviation in visible and latent squint, and in the nervous disorders resulting from the latter.

George Stevens lays down the following rule: "Every modification of a lateral muscle by relaxation or by shortening, which can in any degree affect the rotation of one eye, should in every instance be accompanied by an exactly equivalent modification of the corresponding muscle of the other eye." This rule presupposes that there is always an exactly equal development, exactly equal tendinous attachment of the two internal and two external muscles. There is no more reason for supposing this to be always the case than there is for supposing the two eyes have always the same refraction. Inheritance may determine an abnormal, an imperfect, development or attachment for either external or internal rectus, or for both; just as it determines differences in refraction for the two eyes. Indeed, it would be a very remarkable thing if nature were to grant the special dispensation of exemption to the external ocular muscular apparatus. It does not, and hence, although the above rule of Stevens' has a wide application, it has also numerous exceptions—exceptions which demand our careful consideration, and offer many puzzling problems for solution.

Schweigger says: "In the best sense of the word, squint is only CURED with the restoration of normal conditions, including binocular vision. Still, the operation can only do what is possible." This is true, and most frequently we cannot do what would be possible, for our patients' surroundings are often such that they are unable to give up the time their cases would require that we might attain unto the possibility. Again, squint operations require the highest skill of the ophthalmologist, the most profound knowledge of the workings of the ocular apparatus; and that we may appreciate the possibilities of our highest skill in this direction, we must admit to our meetings other members than

those wearing only the badge of the Order of the External Rectus and Internal Rectus.

Four Cases of Circumbulbar Dermoid Cysts.

In *Vol. XXI, No.* 3, of the *Archives of Ophthalmology*, Dr. Ward A. Holden has translated Mitvalsky's excellent paper on Circumbulbar Dermoid Cyst. It is our purpose here to put on record four cases which have come under our treatment within the past four or five years. Three of these occurred in negroes, one in a white person. All were removed under cocaine anæsthesia. In Case 1, there was no return after the second removal. In Case 2, the origin was so extensive that it was deemed best not to remove it entire, but to remove contents and destroy sac wall. In this case, the patient disappeared while the sac wall was still discharging pus. In Case 3, there had been a partial removal before it came under our care. Its apparently complete removal was, so far as we know, not followed by any return. In Case 4, of which there is accompanying a photograph, there has been, so far as we know, no return.

Case 1.—Miss W., aged 18, cyst sprung from ethmo-orbital junction just posterior to the lachrymal sac. In size resembling a small marble. Contents, thick, odorless, light yellow, semi-fluid, oily substance.

Case 2.—Jas. A., negro, aged 14, cyst sprung from ethmo-orbital junction, perhaps full extent. In size, that of a hickory nut. Contents grayish, oily, odorless.

CASE 3.—Mary B., negress, aged 26, cyst sprung from upper outer orbital margin. Size, that of a walnut. Contents thick, whitish gray, almost cheesy in consistence, odorless.

CASE 4.—Susan Y., negress, aged 30. Contents whitish gray, oily, odorless. Many fine hairs. Origin, bone along upper outer orbital margin.

In all cases, the tumors were of indefinite standing—had existed since early childhood.

Abscess of the Epiglottis. Fishbone in the Base of the Tongue. Remarks Upon the Value of the Snare as a Means of Removing Foreign Bodies from the Visible Lower Throat, Including the Supra-Glottic Region.

Mr. A., while eating a piece of herring, on April 16, felt, as he thought, a bone stick in his throat. His throat constantly annoyed him until the evening of April 20th, when the pain in his throat was severe enough to nauseate him. Examination revealed in the anterior surface of the epiglottis a small abscess. This was opened with a pair of forceps, and Mr. A. told that his throat would probably be well as soon as this little abscess cavity healed. Mr. A. returned the following morning to my office, saying that the "bone" was still in his "throat." Examination revealed a second abscess at the seat of the first one. This was opened, and burnt out with a 60-grain silver solution. This, in no way, relieved Mr. A. A closer examination of the base of the tongue revealed, at a point just opposite the location of the abscess, a minute projection of something resembling a fine bristle. This proved to be the end of the fish-bone, which had buried itself, all but a short length, in the tongue at its base. Owing to the fineness of the point, and to some hypertrophy of the lingual adenoid tissue, this point had escaped my notice. Each time Mr. A. raised the base of his tongue this sharp point scratched the epiglottis—hence the abscesses. The fish-bone projected backwards and downwards, and I was unable to extract it with any of the several kinds of forceps at my command. A lingual cannula was then threaded. With this instrument, the end of bone was quickly caught and extracted. It proved to be a small bone, about three-eighths of an inch in length. It may be

mentioned, in connection with this case, that bent cannulæ, with flattened ends, would be often of great service in removing foreign bodies, such as fish-bones, pins, etc., from the base of the tongue, the sinuses, and the supra-glottic region.

A Note of the Etiology of Pharyngeal Mycosis.

The following observation is of interest in connection with the etiology of nasal polypi: In the winter of 1894, I was consulted by Mr. A., aged 28, on account of his throat. Examination revealed immense numbers of mycotic masses sprung from the regions of the naso-pharyngeal, faucial and lingual tonsils. Microscopic examination showed masses to be formed of the leptothrix fungus. The history of the case, so far as it concerns us here, is as follows: Severe cold in the spring of 1894. Cold refused to yield to treatment. Chronic cough developed. Patient lost much flesh; appetite became poor; daily fever developed. Examination of the lungs showed them to be filled with loud râles. General appearance of chest that of late stages of tuberculosis. Expectoration excessive. Breath very foul. Patient very weak. Small peri-rectal abscess. Night sweats. Besides general treatment, an endeavor was made to remove the mycotic masses. Various applications were tried; and while they were greatly reduced in number and size, it seemed impossible to prevent their recurrence. After Mr. A. had been under the treatment about a month or six weeks, he was taken with pleuro-pneumonia. Mr. A.'s illness was severe for several weeks. Local throat treatment had to be given up. As soon as he recovered sufficiently to stand a railway journey, a trip South was advised. He gradually recovered his strength. On his return to Richmond, he came to my office for me to examine his throat. *There were present no signs of the former mycosis. Not one mycotic mass could be seen. The large number of these masses existing in the throat at the time Mr. A. was taken with pleuro-pneumonia had, without local treatment, all disappeared.*

This observation tends to give weight to the hypothesis that pharyngeal leptothrix mycosis occurs over the adenoid

areas of throat, the secretions of whose mucous membranes have become changed as the result of impairment of the general health. What these changes are we are at present unable to say. This observation, however, makes it worth the while to examine the nature of the oral mucous secretions; and it further teaches us that local treatment is not absolutely essential to the cure of the manifestations of this mycotic disease. It would seem that it tells us, moreover, that our first duty should be to secure for our patient the best—general treatment.

Cases in Refraction—No. I.

There are rules regulating the prescribing of glasses, and many interesting problems offer themselves in the refractive department of ophthalmology. No definite rules for the correction of ametropia can be permanently established which have not taken into consideration the muscular equilibrium of the eye. Many are the cases where the error of refraction for each eye singly can be determined, and accurately, and yet the patient will refuse these glasses when used together. Let us take an example:

Mrs. W., aged 45. *O. D.* $V=\frac{18}{150}+3\frac{1}{4}$ *D. sph.* $V=\frac{18}{15}$ *O. S.* $V=\frac{18}{200}+4$ *D. sph. c.* $+\frac{3}{4}$ *D. cyl. ax.* $180^\circ=\frac{18}{20}$. *Esophoria* 6° *R. Hyperphoria* 2°. *Diplopia with red glass.*

In this case we have practically full vision (for when we consider the error of refraction O. S., we are pleased to find that this eye, which has never worn fully correcting glass, should retain so high a degree of vision) when the refractive errors have been corrected. Let us now try the glasses as given by retinoscopy upon our patient, and what do we find? Mrs. W. sees comfortably with full correction before either eye singly, the other eye being uncorrected. The instant full correction is placed before both eyes everything about her "becomes confused," her "head swims," and she either covers one eye or takes the glasses off. Let us examine, for a moment, the muscular equilibrium of the eyes. What do we find? Simply placing a red glass before one eye reveals hyper-esophoria, right hyperphoria of two degrees, and esophoria of six degrees for twenty feet. This, then, ex-

plains why the patient will not wear glasses correcting the full refractive error. Full correction means accurate vision for both eyes; means the strongest possible endeavors on the part of the eyes to obtain binocular fixation; and binocular fixation for eyes having two degrees of hyperphoria and six degrees of esophoria for distance, is practically impossible to maintain, even if once, for even a little while, obtained as a result of the struggles on the part of the eye muscles. These muscles are often the cause of reflex nervous disturbances the most varied and often, most often, incorrectly diagnosed and improperly treated. Let us look at this case a little more closely. If, while Mrs. W. has before O. D. a. + 3 D. sph., a. + 3 D. sph. is placed before O. S., she experiences none of the uncomfortable sensations brought on by a full correction of this eye. In other words, Mrs. W. sees well and comfortably, wearing before each eye the same glass, a. + 3 D. sph. In the selection of her reading glasses, the same discrimination against a full correction for both eyes has to be made. Mrs. W. reads very comfortably with a. + $3\frac{3}{4}$ D. sph. before each eye, and yet with a. + $3\frac{3}{4}$ D. sph. before O. D. and a. + $4\frac{3}{4}$ D. sph. c. + $\frac{3}{4}$ D. cyl. ax. 180° before O. S., the resulting confusion makes reading impossible. In this case, Mrs. W. has learned to be satisfied with accurate vision for one eye, while she discards the confused image pictured on the extra-macular region of the other. The instant, however, a glass so constructed as to render the confused image on the extra-macular region a definite, clear-cut image, the desire for binocular fixation is awakened; *i e.*, the desire to bring both images on the macular region is born—and this desire the lack of muscular equilibrium prevents from being gratified. The struggle goes on until one or the other of the patient's eyes has to give up, and an abnormal condition of ocular equilibrium is the result.

The question, What shall we do with such cases as the above? is not always easily answered. Many conditions have a part in deciding our course of action. The question has often presented itself: Has not nature been kind in

these cases of high degrees of hyperopia with faulty equilibrium, in that she has made the refraction different for each eye, making one of the eyes irregularly astigmatic? Or, again: Has not nature been kind in cases of high degrees of hyperopia with the refraction for the two eyes unequal, one being irregularly astigmatic, in that she has allowed a faulty equilibrium? For thus does she not prevent the possibility of continuous binocular fixation? Some cases of this series will illustrate these points.

Again: Although the eyes of such patients as Mrs. W. are to her in their present condition the source of a certain amount of discomfort, are we justified in making attempts to restore the faulty equilibrium? Glasses gave her good vision for both near and far, and yet her eyes, if she *uses them beyond a certain length of time*, are the source of some discomfort to her, not, however, of unbearable discomfort. In her case, there are no marked reflex nervous disturbances. There are many considerations which here present themselves. Where the refractive error is a slight one, for hyperopia not more than two dioptrics, we are justified in endeavoring to correct the faulty equilibrium, provided this is also moderate in degree. Where the refractive error is great in degree, the two eyes being of unequal refraction, one being markedly astigmatic, and where, at the same time, the patient has acquired the ability to disregard the extra-macular image formed on the retina of the worse eye, the propriety of endeavoring to correct the faulty equilibrium is very much to be questioned. If, under the last-mentioned circumstances, the patient still retain the desire for binocular fixation, the power to neglect the extra-macular image not having been acquired, it becomes our duty to advise attempts to better the faulty equilibrium. The rule that where the red glass reveals diplopia partial tenotomy should be done, is not a safe one to always follow. We must consider what we shall accomplish provided we bring about the desired muscular equilibrium. Stevens' teachings in regard to muscular inequalities are of the great-

est value—their application accomplishes often the greatest amount of good; but we must ever remember that they cannot do all things. We must bear in mind not only the age and the degree of intelligence of the patient, but also the willingness to submit to treatment; the possibility of continuing treatment until our object to equalize the muscular equilibrium be attained; the especial uses to which the patient wishes to put the eyes; nor should we forget the important part played by the oblique muscles in oblique astigmatism (Savage).

In the case of Mrs. W., I doubt not that an operation which had for its result the reduction of the hyperphoria from two degrees to three-quarters of a degree, would cause an amount of discomfort to the patient which, as the eyes now are, she knows nothing of. It would awaken afresh the constant desire for binocular fixation. Brain centre exhaustion would cause unexpected reflex troubles which now do not occur, and our patient, leaving us before the three-quarters of a degree became nothing, would justly say that treatment had made her eyes much worse than they were before treatment had been begun. It is well, then, to bear in mind these points and many other kindred ones, when we undertake to disturb an acquired position of rest.

In the case of Mrs. W., we prescribed for distance O. D. and O. S. + $2\frac{1}{2}$ D. sph.; and for reading + $3\frac{3}{4}$ D. sph. These glasses prove comfortable to a certain extent. Mrs. W. reads very little. Her circumstances require her to do little sewing. The more active period of her life has been spent without acquiring the necessity for constant book-companionship. Although there existed diplopia for a red glass, there was no noticeable deviation of either eye. Operations, if done, could then accomplish nothing from a cosmetic point of view.

The Oldest Physician in Practice

Is probably Dr. Boisy, of Havre, who is 103 years of age. He goes his rounds every day. He is a moderate drinker and smoker.—*Railway Surg.*, May 21.

Department of Electro-Therapeutics.

Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va.

Treatment of Uncontrollable Vomiting of Pregnancy by Electricity.

Drs. Gautier and Larat have recently reported some marvellous results, which have been obtained in cases of uncontrollable nausea and vomiting of pregnancy, from the use of the continuous current, according to the method Semnola. These cases, which had resisted all other treatment, yielded quickly and entirely to a descending galvanic current applied to the pneumogastric nerve. The technique employed was as follows:

The positive pole, a rod of carbon or metal, covered at tip with moist chamois-skin or cotton, was applied just above the clavicle on a point between the points of origin of the sterno-cleido-mastoid, while negative, a pad 6 or 8 inches in diameter was placed over the stomach. Weak currents, not exceeding 8 to 10 milliamperes in strength only, were used, and each treatment was continued from 15 to 30 minutes. At the end of the treatments, the current should be turned off very slowly to avoid any sudden shock. In bad cases, the treatments should be given several times daily.

The following is a translation of the detailed account of one of the cases reported:

Case I.—*Uncontrollable Vomiting of Pregnancy of Thirty-Six Days' Duration with Insomnia and Extreme Prostration Cured in Ten Days.*—Mrs K., primipara, health has always been good, and menstruation regular. Last appearance of menses, 8th of January, 1895. Nausea and vomiting began on the 22nd of February. The patient could take no food, solid or liquid, and had from 40 to 50 attacks of vomiting in the twenty-four hours, which were accompanied with very intense epigastric pains and frequent faintings. During the second week, her nights became very bad and her pulse very weak, and from this time on she failed daily in

strength and weight. From the first, then, obstinate constipation.

The condition of the patient became so bad that only a little water was retained, and there was a complete insomnia, great physical depression, and cerebral excitement. Remedies of various kinds, including opium, chloroform water, cocaine, bromide of potash, chloral, lavage which seemed only to aggravate the trouble, milk regimen Kefir, inhalation of oxygen, ice, injections of morphine, were tried without effect.

Prof. Dieulafoy, who was called in consultation, considered the case a very grave one, and advised an increase of the doses of morphine, and if relief was not soon obtained, that the pregnancy be terminated.

The case had now become desperate, and the patient was slowly dying of inanition. On the 25th of March, Dr. Champetier de Ribes was called in consultation, and advised immediate recourse to galvanism. In view of the grave condition of the patient, treatment was at once begun, the first application being made at 9 o'clock the same evening. The patient, who had retained nothing 35 days, took and retained, after the first treatment, half a glass of milk, and an hour later another half glass was retained. There was also a diminution of the pain, nausea, and spasm of the œsophagus; and up to 3 A. M. there was neither nausea nor vomiting. The rest of the night was bad, and an injection of morphine was given.

The second treatment, at 9:30 in the morning, was followed by equally good results, but during the day an attack of violent nervous excitement occurred, which was followed by a return of the pains and the nausea and vomiting.

A third treatment was given after midday, and the fourth during the evening, and from this on an amelioration set in, which was continuous. The attacks of nausea and vomiting became less and less frequent, the pulse improved, the constipation yielded, and upon the third day the patient slept without morphine. For the next three days, three treatments a day were given, and during the next five, two.

The patient could now take solid, as well as liquid food —eggs, chicken, ham, milk, coffee, and soups, being well borne.

By the eighth day a cure seemed established, but one daily treatment was kept up, the patient constantly im-

proving until the sixteenth day, when she was able to get up and walk, and to leave Paris for the country.

Nine similar cases, with similar results, are reported.

The authors consider the treatment well worth a trial in other forms of nervous vomiting.

The following conclusions are reached:

1st. That the continuous descending current, applied to the pneumogastric according to the rules given, constitutes an efficient remedy for vomiting.

2nd. That it appears to be a curative agent of the first order in the vomiting of pregnancy.

3rd. That in vomiting due to grave, or even mortal lesions of the central nervous system, electrization brings about a cessation or a considerable lessening of the symptoms.

4th. That the treatment is rapid in effect, and no adjuvant medication is required.

In the discussion of this paper, Dr. Bardet stated that he had tried the treatment in 22 cases of uncontrollable vomiting, but had only found it successful in 10. He had only found it useful in cases of purely nervous vomiting. In the vomiting of pregnancy, it had failed entirely. He had generally used the method of Semnola, descending galvanism of the pneumogastric, but, in three cases, he had tried the introduction of one electrode into the stomach. These cases were among those in which the treatment failed to give relief. The duration of his treatments never exceeded five minutes.

In closing, Dr. Larat said that the length of time of the application was of the greatest importance. The treatments should be continued for 15, 30, or even 45 minutes. and should be repeated several times during the day.

The series of successful cases reported was doubtless a happy one, but he had it from Semnola himself that he had never had a failure.

Proceedings of Societies, Boards, etc.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

June 11*th*, 1895. Dr. Wm. S. Gordon, *President;* Dr. Dr. M. W. Peyser, *Reporter.*

Dr. Ernest C. Levy read a paper on

Therapeutics of Diphtheria, Including Hospital Experience with Antitoxin. [See pape 361.]

Dr. W. W. Parker wished to know what had been the influence of treatment upon cases in which the cervical glands were involved. He had always been greatly influenced in his prognosis by this symptom, and regarded its presence with the gravest apprehension.

Dr. H. H. Levy reported having used antitoxin in three cases. One of these had been exceedingly mild, and would, he felt confident, have recovered under ordinary treatment. The other two cases were more severe, and in these he had been very glad to avail himself of the new treatment. In both of these cases there had been considerable cervical swelling. While his personal experience with antitoxin had not been large enough to enable him to pass upon its merits, he had been most favorably impressed by the rapid disappearance of the membrane and cervical swelling in these cases, as well as by the prompt improvement in the general condition of the patients.

Dr. E. C. Levy said that our prognosis should be influenced by the presence of cervical adenitis, according to its cause in each case. It was by no means uncommon to see extensive involvement of the cervical glands in ordinary follicular tonsillitis. Here it was of little moment. In cases of true diphtheria, it was most marked where the nasal mucous membrane was involved. In septic cases it was always present to an extreme degree.

Dr. J. S. Wellford referred to the unfavorable opinion of antitoxin which had been expressed by Dr. Winters, of New York, and asked what Dr. Levy could advance in explanation of Dr. Winters' charges as to the statistics of the Willard Parker Hospital. Dr. Winters had claimed that many cases which had been treated at that institution had been sent there, although there were no clinical evidences of diphtheria, the diagnosis having been made entirely from

the presence of the Klebs-Loeffler bacillus. If this was so, the statistics were not to be relied upon.

Dr. Peyser said he considered that Dr. Winters had called attention to an important fact—the solvent power of horse serum upon human red blood-corpuscles. He thought that careful investigations of this point should be made, before adopting a remedy which possessed such properties.

Dr. T. J. Moore requested Dr. Levy to describe the most severe case of pseudo-diphtheria he had encountered, and also the most rapid improvement he had observed in true diphtheria, after the injection of antitoxin.

Dr. Ernest C. Levy, in closing the discussion, said he was glad that Drs. Wellford and Peyser had referred to Dr. Winters' attack upon antitoxin. He (Dr. Levy) was present at the meeting of the New York Academy of Medicine, on April the 4th, when Dr. Winters made his remarks, and had been at the Willard Parker Hospital during a considerable portion of the time from which the statistics discussed that night had been drawn. He regarded much that Dr. Winters had said as very unfair.

He admitted that a few cases sent to the Willard Parker, with the Klebs-Lœffler bacillus present, had no membranous deposit, but there had always been good reasons for the admission of such cases. All of them had more or less hyperæmia of the mucous membrane, and many of them had presented constitutional symptoms. Allowing that a few such cases had been included in the statistics, this point was, in his opinion, more than counterbalanced by another important fact. In former years, certainly up to May, 1893, there had been included in statistics of diphtheria at the Willard Parker Hospital many cases which, in the light of our present knowledge, would now be called pseudo-diphtheria. During March, and the first part of April, while Dr. Levy was at the hospital, it was part of his duty to make the bacteriological examinations, and he could certify that during this time *the cases thus excluded from the statistics outnumbered those included on mere bacteriological evidence at least three or four to one.* As pseudo-diphtheria was very rarely fatal, the statistics of former years had a much larger element of error present than those in which were included a few cases with absence of membrane, but presence of the Lœffler bacillus.

As to the point referred to by Dr. Peyser—*the solvent power of horse-serum upon human blood cells*—this was an undoubted physiological fact, but, practically, the injection of

antitoxin was not followed by any ill effects attributable to this cause. If the course advised in the paper of the evening, viz: administration of small doses of serum of high antitoxin strength, in preference to large doses of a weaker preparation, were followed, this theoretical danger would be reduced to a minimum.

Dr. Moore had requested a report of the most severe case of pseudo-diphtheria which Dr. Levy had seen, and also of the most marked instance of rapid recovery from true diphtheria after the employment of antitoxin. A case was cited which had presented very severe local and constitutional symptoms, lasting for about a week. As the case had been of only three days' standing when admitted to the hospital, and no local antisepsis had been employed, the failure to find the Lœffler bacillus, and the finding of streptococci, necessitated the diagnosis of pseudo-diphtheria. Complete recovery followed, without, of course, the employment of antitoxin.

The mortality of pseudo-diphtheria was practically *nil*, the fatal cases being those developing in the course of some other disease, especially scarlatina, or those in which some other complication (such as broncho-pneumonia) arose.

The most marked instance of the benefit of antitoxin, in his experience, had been in the case of a nurse who had contracted diphtheria on the third day after coming on night-duty at the hospital. A culture was taken within a few hours after the development of symptoms, but antitoxin was given at once without waiting for the result of the culture. The case promised to be a severe one, there being great depression, high temperature, a rapidly-spreading membrane, and the culture, examined on the following day, showing a profuse growth of the Klebs-Lœffler bacillus. The patient, however, had improved rapidly, and was discharged in eight days, the membrane having disappeared on the third or fourth day.

VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

The Virginia State Veterinary Medical Association met in the Veterinary Department of the Agricultural College, at Blacksburg, Va., Tuesday, June 18th, 1895.

After the *Annual Address of the President*, by Dr. William H. Harbaugh, of Richmond, Va., was delivered, subjects

pertaining to veterinary education and the status of veterinary colleges were discussed at length. During the discussion, several members asserted that a certain veterinary college had issued a diploma to a man who only attended the college from last November to April. This man is now practicing in Virginia, and had requested one of the members to present his name as an applicant for membership. Action was delayed until full particulars could be laid before the Association. Much indignation was expressed at the idea of an institution, located near the borders of this State, sending into Virginia insufficiently educated men with diplomas of no more real value than a piece of blank paper, especially in view of the fact that we have no law to protect the public and the profession against the practices of the fakirs belched forth from diploma mills.

The chairman of the Committee on *Collective Statistics* read a valuable report on the nature and prevalence of infectious and epizootic diseases in this State. In the sections heard from, *tuberculosis* prevails to a great extent among dairy cattle. In some localities, *Southern cattle fever* caused many deaths last season. *Influenza*, *strangles* and *contagious pleuro-pneumonia of the horse* were reported from the cities. *Pharyngitis* appeared in an epizootic form in Richmond and Norfolk. *Anthrax* was met with in the Western part of the State. *Canine distemper* was reported from various sections, and especially the nervous form, which gives rise to mad-dog scares so frequently, but it is an interesting fact that no cases of real rabies were reported.

Under the head of reports of cases,

Dr. J. E. Miller gave interesting symptoms in connection with a case of *rupture of the stomach in a stallion.*

Dr. Bannister described the post-mortem lesions of a death from *adenoma.*

Dr. Faville described a case of *pyæmia as a result* of *pharyngitis.*

Prof. Niles, of Blacksburg, Va., gave the particulars of an *outbreak of anthrax.*

Drs. Marshall and Dixon reported surgical cases.

Dr. Harbaugh read an article on *plural pregnancy.* [See page 398.]

Owing to a technicality, the election of officers was deferred till the *next meeting*, which will be held at Richmond, January 2d, 1896.

MEDICAL EXAMINING BOARD OF NORTH CAROLINA.

The following are the *Questions* used by the Board during its Annual Session in Goldsboro, N. C., in May, 1895:

CHEMISTRY.—George W. Long, M. D., Graham, N. C., Examiner.

1. What are alcohols and what different forms are there?
2. Name the principal oxygen derivatives of the hydrocarbons.
3. Define alkaloids, tell how they are subdivided, give general characteristics, and mention antidote.
4. Give the principal groups of carbohydrates, mention purest form of cellulose, and tell what it is called when it is deprived of its fat.
5. Give antidote for poisonous doses of $AgNO_3$, explain reaction, and tell why brandy would be a better stimulant for the patient than ammonia.
6. If chlorine is brought into contact with H_2S, what would be the reaction?
7. What are the antidotes for H_2S poisoning?
8. Give reliable test for detecting albumen and sugar in urine.
9. Explain what is meant by analysis and synthesis, and tell how they can be applied to water.
10. Define the term potable, hard, temporary hard, permanently hard and soft water, and tell what precaution should be observed in selecting water-supply from rivers and wells.

PRACTICAL SURGERY.—W. H. Whitehead, M. D., Rocky-Mount, Examiner.

1. Define ganglion, arthritis, and lipoma.
2. Give pathology of tetanus. Treatment for epididymitis and balanitis.
3. Name tumors most frequently found in the breast. Differentiate malignant from non-malignant.
4. Give symptoms of ulcer of the rectum. Name varieties of fistula in ano.
5. Define blepharitis, ectropion, and adenitis.
6. Name varieties of gangrene. Give pathology and treatment of anthrax.

7. What are the causes of retention of urine? Name varieties and treatment for hæmorrhages.
8. What is erysipelas? How prevented? How treated?
9. Give diagnostic signs of (a) Aneurism (b) Hectic fever.
10. Name the inflammatory diseases of the bones. Give treatment for Potts' disease.

PRACTICE OF MEDICINE.—J. M. Hays, M. D., Greensboro, Examiner.

1. What is the difference between deodorants and disinfectants? Give examples of each with method of application.
2. What is atheroma? What organs are principally affected by this condition, and how?
3. What is the period of incubation in measles? The initial symptoms? How long after latter before eruption appears? Diagnosis?
4. Give symptomatology of simple continued fever, and state in detail the diagnostic differences between it and fevers of malarial or typhoid origin?
5. Give treatment of quinsy in its various stages?
6. Give causes, symptoms, and treatment of facial paralysis?
7. Give cause and treatment of nephritic colic. From what is it to be distinguished, and how?
8. What affections of the heart are due primarily to rheumatism?
9. What are the symptoms of antero-lateral sclerosis and locomotor ataxia respectively?
10. Give symptoms and treatment of chronic gastritis. Write out in full two prescriptions for same.

DISEASES OF WOMEN AND CHILDREN.—Julian M. Baker, M. D., Tarboro, N. C., Examiner.

Diseases of Women.

1. Describe the ovary.
2. Describe the normal position of the uterus, the factors which influence it, and the varieties of pathological displacements of the same.
3. What are the symptoms, physical signs and treatment of laceration of the cervix?
4. Give the symptoms, physical signs and differential diagnosis of large fibroids of the uterus.
5. Give the diagnosis and treatment of para-metritis.

Diseases of Children.

1. Define retro-pharyngeal abscess and give the symptoms and treatment.
2. Define acute meningitis, and give the pathology and treatment.
3. Give the differential diagnosis of scarlet fever, measles, roseola and variola.
4. Describe scabies and give treatment.
5. Give the origin, symptoms and treatment of tape-worm.

ANATOMY.—Dr. Burbanks, Wilmington, Examiner.

1. Describe the axis or second cervical vertebra?
2. Give the origin, foramen of exit, and distribution of the third cranial nerve?
3. Give extensor muscles of the tarsus, origin and insertion?
4. Give the relation of the vermiform appendix and cœcum?
5. Give the coverings of oblique inguinal hernia?
6. Give the branches of the external carotid artery?
7. Describe the knee-joint, bones, ligament and synovial membrane?
8. Give the relations of the femoral artery in Scarpa's triangle?
9. Describe the brachial plexus?
10. What structures would you divide in amputation of the leg at its upper third?

PHYSIOLOGY.—H. B. Weaver, M. D., Asheville, Examiner.

1. What is proto-nuclein? (1) Of what is it composed? (2) How is it elaborated in the organism? (3) What are its functions?
2. Describe the distribution and offices of the vessels which supply the liver.
3. What is the composition of the blood? (a) What is the cause of coagulation and the conditions which modify it? (b) What is the origin of the red and the white corpuscles; their functions, and relations to each other? (c) How does lymph differ in *composition* and *function* from blood?
4. Describe the (nervous) mechanism of respiration. (a) Give difference in composition between *inspired* and *expired* air. (b) What is the condition of the gases

in the blood? (c) Explain the *phenomena* of asphyxia.

5. Describe the different kinds of nervous tissue, giving their difference in structure and functions?
6. What are the general physiological properties and functions of the spinal cord? (1) Give a distinction between the *anterior* and *posterior* roots of a spinal nerve and its *anterior* and *posterior* branches. (2) Give the law of decussation of nerve fibres in the *columns*, both sensory and motorary. (3) What is the essential *function* of the posterior column?
7. Give the origin, distribution and function of the facial nerve.
8. Locate the cardio inhibitory centre and the vaso-constrictor centre, and explain the phenomena of each.
9. Describe the *physiology* of the sense of sight. (a) Describe in detail the retina, stating its *functions*. (b) State the essential *conditions* for proper vision: the nerves and the centres which govern this *function*. (c) What is the *function* of the choroid?
10. What are the functions of the cerebrum? (a) Locate the motor centres. (b) The sensory centres. (c) Where is the centre for speech?

MATERIA MEDICA AND THERAPEUTICS.—L. J. Picott, M. D., Littleton, N. C., Examiner.

1. Define difference in heart tonics and heart sedatives, and illustrate by several?
2. Give symptoms and treatment of poisoning by digitalis?
3. Give symptoms and treatment of poisoning by cocaine, with maximum dose hypodermically?
4. Give the treatment of night sweats of phthisis, naming the anhydriotics particularly.
5. What are galactogogue and galactaphygus? Name them.
6. Explain why potash iodide—bichloride mercury—are theoretically incompatible, but not practically so.
7. Give symptoms and treatment of bromism, and causes?
8. What is the therapeutic uses of hydrated sesquioxide of iron?
9. Dose and uses of tincture of strophanthus?
10. Dose of arseniate of iron; dose of tincture convallaria majalis and its therapeutic uses? What is the therapy of argyria?

Out of 64 applicants examined at the last meeting of the Medical Association in Goldsboro, 51 were accepted and 13 rejected. Dr. Lee Cohen, of Newberne, stood highest, and Dr. C. L. Minor next highest.

Thomas C. Gibson, Winston; Goode Cheatham, Henderson; O. H. Kenan, Kenansville; J. H. Alston, Townesville; E. H. Brooks, Monroeton; Jasper N. Andrews, Albemarle; T. C. Walker, Randleman; M. Olivia Nelon, Asheville; T. V. Goode, Cherryville; C. L. Minor, Asheville; F. D. Crim, Hot Springs; N. A. Thompson, Lumberton; W. W. Whittingtan, Asheville; W. P. Blair, Clover, S. C.; N. C. Daniel, Saterwhite; J. L. Spruill, Columbia; A. J. Eller, Reedy Branch; L. L. Walker, colored, Durham; L. J. Frazier, Oxford; J. C. Hammock, Walkerton; Lee Cohen, Newberne; W. L. Hay, McAdensville; M. D. Bowen, colored, Clarkton; E. L. Starney, Morehead City; Edwin Klebs, Ashville (Berne, Switz.); J. H. Fouts, Franklin; E. E. McCoy, Franklin; W. H. Crowell, Porrtith; Roger S. Turlington, Bennettsville, S. C.; C. V. Reynolds, Asheville; N. M. Gibbs, Fairfield; George W. Pressly, Charlotte; James M. Parratt, Kinston; F. L. Potts, Washington; Earl Grady, Tryon City; S. M. Crowell, Mint Hill; James L. Bullock, Greensboro; G. A. Hood, Newton Grove; T. G. Hamrick, Henrietta; J. V. Williams, Evalin; E. R. Russell, Rockingham; E. M. Brevard, Charlotte; B. F. Halsey, Roper City; A. F. Thompson, Wadesville; W. G. Shaw, Fontcals; R. P. Morehead, Lasker; F. L. Siler, Dillsboro; W. S. Jones, Goldsboro; F. H. Holmes, Clinton; J. W. Rodwell, Macon; J. R. Reitzal, Pineville; E. T. Dickinson, Freemont.

Morphinomania Cured by Gradually Increasing Doses of Phosphate of Soda.

M. J. Luys reports the case of Dr. X., who had been accustomed to employ about seven grains of morphia daily. Small doses of sodium phosphate were given subcutaneously (with glycerine and water), and as these were gradually increased the morphia was progressively diminished. In two months the morphia was discontinued entirely, and then the doses of sodium phosphate were progressively diminished, and finally stopped altogether in two weeks more. There remained no desire for the morphia at all.—*Amer. Pract. and News.—Milwaukee Med. Jour.*, May, 1895.

AMERICAN MEDICAL PUBLISHERS.

This Association held its Second Annual Meeting at the Eutaw House, Baltimore, on the 6th and 7th of May, with the following in attendance: Dr. J. C. Culbertson, Cincinnati, Ohio; Miss Dora Jones, St. Louis, Mo.; Dr. John C. Le Grand, Anniston, Ala.; Dr. C. F. Taylor, Wm. B. Saunders, Philadelphia, Pa.; Miss Hackedorn, Toledo, Ohio; Dr. F. E. Stewart, Detroit, Mich.; J. MacDonald, Jr., Irving J. Benjamin, Dr. Ferdinand King, Dr. H. P. Fairchild, New York City; Dr. R. W. Lowe, Bridgeport, Conn.; Dr. W. C. Wile, Danbury, Conn.; Dr. H. M. Simmons, Dr. William B. Canfield, Baltimore, Md.; H. A. Mathie, Dr. A. H. Ohman-Dumesnil, Dr. I. N. Love, St. Louis, Mo.; Dr. Landon B. Edwards, Richmond, Va.; Dr. Hudson, Austin, Tex.; Dr. Wm. F. Bartlett, Philadelphia; Dr. T. D. Crothers, Hartford, Conn.; Dr. Gilbert I. Cullen, Cincinnati, Ohio; Dr. Henry S. Upson, Cleveland, Ohio; Dr. E. E. Holt, Portland, Maine; J. M. Grosvenor, Jr., Boston; Chas. Wood Fassett, St. Joseph, Mo.

Nineteen new members were admitted, and questions of the day affecting medical publishers were profitably discussed.

Beginning with July 1, 1895, a monthly bulletin will be issued for the benefit of members of the Association. It is to be edited by Drs. P. H. Fairchild, J. MacDonald, Jr., and Ferdinand King, New York City; Dr. J. C. LeGrand, of Anniston, Ala., and Charles Wood Fassett, of St. Joseph, Missouri.

The Secretary was authorized to issue, in pocket form, a revised list of medical advertisers.

Upon invitation, the Association banqueted with the medical editors on Monday evening.

The officers re-elected were as follows: President, Dr. Landon B. Edwards, of Richmond, Va.; Vice-President, Dr. H. C. Culbertson, Cincinnati, Ohio; Treasurer, J. MacDonald, Jr., New York City; Secretary, Charles Wood Fassett, St. Joseph, Mo. Dr. J. C. Le Grand and Irving J. Benjamin were elected on the Executive Board.

If You Leave Your Spectacles at Home,

Being old and presbyopic, make a hole with a pin in the corner of your visiting card; and you can read your clinical thermometer or anything else.—*Railway Surg.*, May 21.

Analyses, Selections, etc.

A Plea for Efficient Legislation Regulating Medical Practice.

This paper was read before the American Academy of Medicine, at Baltimore, May 6, 1895, by Perry H. Millard, M. D., of St. Paul, Minn., and by resolution of the Academy, the principal medical journals of America and Europe are requested to make as full use of it as they can, since its conclusions are expressive of the opinions of the Academy.

As a nation during the first century of our history, we have established a system of common school education that challenges the admiration of the civilized world. It is a subject of regret, however, that in certain advanced lines of education our methods have proven most defective. This is true of medical education—a system having secured foothold with us that is indeed anomalous. Having no support other than the fees of students; without university or college connection; without support from the State, generally accorded other systems of education; without restraining legislative enactments; without laws regulating the granting of charters for purposes of medical instruction—it is indeed little wonder that at the end of the first century of our history as a nation chaos should reign supreme.

The agitation of the question of medical education is bearing fruit, however, in that a majority of the schools situated in the Northern States demand at the present time evidence of preliminary fitness before matriculation, and that in a period of five years all colleges known to the writer have extended the period of time of study. After the present year every medical school of recognized standing will require attendance upon four courses of lectures in different years, of six months' duration each course, before conferring the degree of M. D. The reforms thus far accomplished have only been secured in the face of determined opposition at the hands of the representatives of the low-grade institutions. Future opposition will result in disaster to the participants. Professional sentiment is decidedly with those schools now operating under the advanced curricula. This is particularly manifested by the increased number of matriculates in the last three years at schools operating under the four years' course. The fiscal matriculation at the University of Pennsylvania and Columbia is, approximately, 800, Harvard 500, and others in proportion, while that of the recognized low-grade institutions have sensibly fallen off.

Notwithstanding the trend of public opinion, we are firmly of the conviction that our only safety consists in the

establishment of efficient legislative acts in substantially every State. The high grade schools are undergoing a period of evolution and are determined to inaugurate greater system in methods of work; with low grade schools little evidence is at our command pointing to improvement. The elevation of the standard of requirements in the latter class of schools have been entirely in response to the requirements of the respective State boards of medical examiners.

The indifference of the profession to methods of medical education has been far-reaching in its pernicious influences. Blinded by our own shortcomings we did not awaken to a realization of our environment until our interests were greatly jeopardized. We found ourselves drifting, in the estimation of both the public and profession, towards a condition of professional inefficiency, not unlike that of French medicine in the seventeenth century, so graphically described by Molière. One of the greatest evils of our system was the flooding of our ranks with a horde of poorly educated practitioners far in excess of our legitimate demands. The latter assertion is convincingly illustrated by the statistics gleaned from the recent excellent paper of Professor Pepper on Medical Education, affording *comparative statistics relating to the proportion of practitioners to the population in different countries.*

Austro-Hungarian Empire	1 to 3,857.
Belgium	1 to 2,841.
France	1 to 2,666.
German Empire	1 to 3,038.
Italy	1 to 3,536.
Netherlands	1 to 2,484.
Norway	1 to 3,961.
Russia	1 to 8,551.
Spain	1 to 3,375.
United States	1 to 500.

The number of medical colleges indicates a similar disproportion to the population.

Austro-Hungarian Empire	1 to 5,153,917.
Belgium	1 to 1,534,111.
Brazil	1 to 7,001,167.
Canada	1 to 3,336,877.
Chili	1 to 2,887,552.
France	1 to 5,477,591.
German Empire	1 to 2,471,923.
Great Britain	1 to 2,358,767.
Italy	1 to 1,445,109.
Netherlands	1 to 660,249.
Norway	1 to 1,988,771.
Sweden	1 to 1,600,917.
Russia	1 to 14,403,317.
Spain	1 to 1,950,027.
United States	1 to 440,151.

It will be observed from the above that the proportion of practitioners and the number of schools are greatly in excess of other countries. Medical colleges in foreign countries are likewise independent financially, being, as a rule, directly supported by the State or possessing a direct university connection.

An investigation of this subject reveals beyond the possibility of successful controversion that the most efficient profession is found in those countries protected by efficient legislation, while a correspondingly low standard of professional fitness exists in countries not similarly protected.

At one time considerable opposition existed to the regulation of medical practice by legislative enactments. With the defeat of attempts to destroy the effects of this form of legislation by litigation and the moral support afforded by the recent decision of the Supreme Court of the United States and Supreme Courts of the several States, as well as the apparent benefits from the successful operations of the law in a large number of States, it is pleasing to note a decided change of sentiment in favor of this form of legislation.

The existing opposition to this form of legislation is greatly disappearing, being greatly confined at present to the charlatan, the faculties of a few of our low grade schools and the public press. We can trace the existence of statutes regulating medical practice from the thirteenth century; in the year 1237 licenses were only obtainable in Italy upon attendance at medical lectures for a period of five years, with preliminary entrance requirements demanding three years' work in philosophy.

The first degrees in medicine were evidently conferred in Italy in 1384. Laws regulating medical practice have existed in all civilized countries for many centuries. It is unfortunate that in this country the diploma has been given a legal interpretation; in foreign countries it is simply an evidence of scientific value. With the advent of statutes regulating medical practice this custom upon the part of the courts is becoming abrogated. We cannot but conclude that in the older countries we have a superior profession in point of intelligence, with a more desirable environment; while with us we have, as a whole, men somewhat inferior in their preliminary training, a number triple that of any other country and a professional environment most undesirable.

The essentials of efficient medical legislation will incorporate the following features:

(1.) The adoption of more rigid rules governing the admission of students to medical schools.

(2) The determination of the applicant's fitness to practice by an examination upon all the branches of medicine.

(3.) The right to refuse or revoke licenses for unprofessional or dishonorable conduct.

(4.) An adequate penalty for violation of the provisions of this variety of legislation.

(5.) The boards of examiners to be appointed by the Govnor, with proportionate representation by different schools of practice.

In support of demands for an adequate entrance requirement, it is conceded that medicine is now more nearly practiced from a scientific basis than at any time in its history. Without adequate preliminary fitness the broad field cannot be grasped nor its practice entrusted to persons without well trained minds.

Persons contemplating medicine as an avocation should give the scientific branches particular attention in preparation. A thorough course in the scientific department of our better equipped colleges or universities will permit of the successful accomplishment of the course now provided in the four years' curricula in a period of three years. I fully concur in the position taken by Professor Vaughan, however, in that the classical course does not prepare the student in a manner that he can safely abridge the work now required in the four years' curricula. The necessity of a thorough college training is more apparent now than at any previous time. While an immediate attempt, looking to the demand as above suggested, would probably meet with defeat, I am of the opinion, however, that by concert of action we can secure the adoption at this time of an elevation of the standard of fitness, requiring a college or university matriculation, or its equivalent, of all students wishing to commence the study of medicine. If the student cannot furnish a matriculation ticket from a recognized college or university, he or she should be required to undergo an examination that would admit to such course.

Under existing relations we cannot safely entrust this examination to the representatives of the teaching body. Except in a few of our high grade schools the entrance examination has been a farce as at present conducted. The factors leading to this condition are the same as outlined ear-

lier in this paper. It is the result of college competition with an unnecessary multiplication, in recent years, of the number of teaching bodies. It is my judgment, based upon a somewhat varied and extended experience, that a majority of the schools in this country exist to serve the personal interests of the respective faculties rather than to serve the legitimate demands of the people. About twenty-five per cent. of our schools have a matriculation of less than sixty pupils.

The determination of the fitness of the student to commence the study of medicine should be placed in the hands of a body of men entirely disinterested. I know of nobody better qualified to superintend the execution of this important trust than a State board of medical examiners. If not such a body, then a committee composed of members of a faculty of a college or university.

The minimum of entrance requirements should be uniform between the different States. Under the operations of the New York law regulating the examination of students commencing the study of medicine, much good is being accomplished. I desire to urge upon the profession the necessity of provisions in future acts looking to a rigid protection of the gateway to the study of medicine.

Having submitted satisfactory evidence of preliminary fitness, only such persons should be admitted to undergo the professional test as have received their courses of professional education at schools of medicine whose curricula of requirements are acceptable to the respective boards. A minimum of requirements, both as to time and teaching facilities, are as essential in measuring professional fitness as it is for similar purposes in universities, colleges, and our public school system. A school should not be recognized unless it is working under a minimum that will assure the graduation of a class of persons that can safely be entrusted with the care of the sick. In arriving at a conclusion upon this most important function, I desire to particularly impress upon the members of these boards the fact that medicine as at present understood and practiced is radically different from that of a few years ago. To comprehend requires years of study and a training in laboratory methods and surgical technique that can only be grasped when afforded by a person trained in methods of medical pedagogy. The clinical and laboratory facilities of many of our schools are shamefully inadequate—several colleges known to the writer having operated for years with substantially no as-

sets. It is the duty of each board to enquire fully into the facilities of each school represented by graduates who are applicants for degrees.

Having determined upon the fitness of the school to afford satisfactory courses of medical instruction, applicants holding degrees from such institutions should be admitted and a further test of fitness demanded by requiring an examination upon all the recognized branches of medicine. These examinations should be conducted by number, be scientific, and of sufficient severity to assure the public a thoroughly educated profession. Students from the respective schools of practice should undergo an examination upon the same questions, no necessity existing for questions not primary in character.

Licenses should not be refused or revoked for other than gross unprofessional or dishonorable conduct. In criminal cases it is not well to anticipate the processes of criminal law. The latter feature of our legislation has been instrumental in protecting the people from the professional charlatan in several States. Its provisions should be incorporated in all statutes regulating medical practice.

Owing to the difficulty in securing indictments and the consequent tardiness of legal processes, the penalty for violations of the provisions of this form of legislation should be by penalties imposed by a justice or a municipal judge; the latter method has given satisfaction as far as I am aware. Reasonable efficiency upon the part of the officers of these boards have been awarded by a full compliance with the provisions of this form of statute in all instances. The Governor should have the appointing power, being responsible for the successful operations of the different State boards. Experience satisfies us that the so-called mixed boards are doing satisfactory work and operating in perfect harmony. Seemingly, no excuse exists for the duplicate boards operating in a very few States. At present approximately thirty States possess legislation regulating medical practice. Seventeen States have a form of statute that fails to recognize the diploma as evidence of fitness to practice; consequently, they may be classed with those States operating under efficient acts. In the latter class of States I particularly desire to call your attention to the results of work thus far accomplished. In a paper read before this learned body at Detroit, Michigan, in 1892, I suggested the future influences of these boards as most important in shaping the future medical education in this country. I submit

data at this time confirmatory of the position then taken, and reaffirm my former suggestion, that future legislation will in a great measure determine and govern the work of the teaching bodies of the country.

State.	Examined.	Licensed.	Rejected.	Per cent.
Alabama	647	558	89	0.862
Maryland	150	105	25	0.806
Minnesota	641	499	142	0.778
New York	967	797	170	0.824
New Jersey	447	417	30	0.955
North Carolina	615	508	207	0.71
North Dakota	81	76	5	0.938
Virginia*	835	613	222	0.734
Washington	207	167	40	0.806
Totals	4670	3740	930	0.822

The nine hundred and thirty unsuccessful applicants have, we doubt not, principally located in States not protected by this form of legislation.

I am pleased to direct your attention to the good work of the Minnesota Board. The present act requires an examination of all persons commencing the practice of medicine, and as amended by the last legislature the minimum of requirements is changed, demanding that all graduates of later date than 1898, furnish satisfactory evidence of having attended at least four courses of lectures in different years, of not less than six months duration each.

We have in Minnesota a practical illustration of the position taken in my former paper: "that in medical legislation we have the only solution of the problem of higher medical education." In a period of twelve years the proportion of physicians to the population in Minnesota has been reduced from one practitioner to every six hundred and fifty in 1883, to one to every one thousand in 1895. The State has been substantially rid of the traveling charlatan. We therefore conclude that in one State at least the number of physicians have been reduced to a number commensurate with the demands of the people.

From advance sheets kindly furnished for use in this paper, I observe the following verification of a position taken by the Secretary [of the New York Board], James Russell Parsons, in his 1893 report. He reiterates that the records of the past year conclusively proves the position taken in his 1893 report, "That the new law proves a bar-

*These figures need a little change to conform to data to date, as follows: Examined, 887; Licensed on first examination, 626; Rejected and withdrawals, 261; Per cent. of successful first examinations, 0.705.

rier to the ingress of the incompetent, has operated to raise the standard of preliminary education, improve the methods of teaching and terms of study of the different schools of medicine."

The following resolution from the President and Secretary of the Board to the State Medical Society is significant and should meet the approval and support of every member of the profession of this great State: "*Resolved*, that in the opinion of this Board, the best interests of the public and medical profession would be materially advanced by gradually increasing the minimum of requirements as to general preliminary education till no candidate be entitled to matriculate in 1897 at a degree-granting medical school in this State, that has not completed at least a full high-school course." I am pleased to note that this bill has already passed the Senate in New York and is in a fair way of becoming a law. If it becomes operative, it will operate to improve the character of matriculate in New York schools, and will be followed by similar legislation in other States.

Greater co-operation is necessary between different State boards, as it is essential that harmony of policy exist as far as practicable. As in foreign countries their relations to the profession and teaching bodies is most important, their functions being that of professional censors of the conduct of the members of the profession, and guarding at the same time the avenues of entrance to professional work. It being the duties of these boards to protect the people from professional incompetency and charlatanry the duties are briefly comprehended in the performance of the following duties: 1. In establishing a minimum curriculum for all colleges whose alumni apply for a license to practice. 2. The individual examination of all persons wishing to practice medicine in the Commonwealth. 3. A professional censorship, granting the right to refuse or revoke a license for incompetency and gross unprofessional or dishonorable conduct.

As this form of legislation becomes more fully understood and appreciated by the better class of schools, it will be observed as one of the most certain and reliable avenues of placing before the profession of the country the character of work being done in all colleges whose alumni apply for a license. A school doing honest work has little to fear at the hands of these boards; on the contrary, as suggested in my former paper, it will be found that the

proportion of applicants able to pass successful examinations will be a certain index of the character of instruction afforded students in the respective schools.

While the proportion of applicants successful is only eighty-two per cent., it will be found that from the schools heretofore operating under a high grade of requirements, thus far at least in the work of these boards, nearly all graduates are successful in obtaining a license upon examination. In substantiation of this conclusion I again submit data, using therein the same schools as in my former paper. The following table indicates the proportion of students successful on examination from alumni of schools heretofore operating under the three years' curricula:

Colleges.	Examined.	Licensed.	Rejected.	Per cent.
Harvard	31	31	0	1.000
Columbia	123	118	5	.952
Univ. of Penn	126	123	3	.976
Univ. of Michigan	83	78	5	.940
Northwestern Univ	26	22	4	.846
Univ. of Minnesota	149	148	1	.992
Totals	538	520	18	.964

I cannot but conclude that efficient medical legislation will operate to bring about the following results, as applied to the profession and public:

1. It will protect the people by affording a profession of greater intelligence.
2. It will suppress charlatanry.
3. It will reduce the number of persons practising medicine to a number commensurate with the demands of the people.
4. It will reduce the number of medical colleges, at present far above legitimate demands.
5. It will raise the general standard of professional fitness, assuring us a professional prestige in the future, becoming the most important of the learned professions.

In conclusion, we appeal to the profession to renew their efforts in securing efficient medical legislation, believing its operations will result most beneficially to both the public and profession.

If the moon will spend her last quarter to get full, what can be expected of the man who is boozerinically inclined?

Book Notices.

Immunity, Protective Inoculations in Infectious Diseases, and Serum-Therapy. By GEORGE M. STERNBURG, M. D., LL. D., Surgeon-General U. S. Army, Ex-President American Public Health Association, etc. New York: Willam Wood & Co. 1895. 8vo., 325 pages. Extra muslin, beveled edges, uniform with the volumes of *Medical Practitioners' Library*. Price, $2.50; in flexible morocco, $3.25.

This is a very opportune work, and serves admirably as one of the "Medical Practitioners' Library," recently begun by the publishers. No one is better prepared to discuss the issues of the day involved in the title than the distinguished author, who has devoted his life to the study of bacteriology and its application to medicine. The book summarizes the most important experimental evidence thus far presented with reference to determined facts—giving but little space to unsolved questions. Part I is devoted to "Susceptibility and Immunity"—discussing matters relating to natural and acquired immunity. But Part II is the practical portion, being given up to protective inoculations and serum-therapy in anthrax, chicken cholera, cholera, diphtheria, foot and mouth disease, glanders, hog cholera, hog erysipelas, hydrophobia, influenza, influenza of horses, pleuro-pneumonia of cattle, pneumonia, rinderpest, smallpox, swine plague, streptococcus infection, symptomatic anthrax (or black leg), tetanus, tuberculosis, typhoid fever, and yellow fever. To teachers and students as well this book will be of constant service, in order to teach and appreciate the recently developed truths relating to the subjects named.

Evolution of the Diseases of Women. By W. BALLS-HEADLEY, M. A., M. D. (Cantab.), F. R. C. P. (Lond.), Lecturer on Midwifery and the Diseases of Women at the University of Melbourne, etc. London: Smith, Elder & Co., 15 Waterloo Place. 1894. Cloth. 8vo. Pp. 375. Price, $5. (For sale by J. W. Randolph Co., Richmond, Va.)

This book is practically a contribution to the study of the natural history of disease in woman. It goes back in the history of woman when she was but a sexual being—captured or purchased as the wife of one or several. It next traces the influence of civilization on the sexual relations, showing the evil effects of overdress, attempts to make her-

self attractive, dissipation, etc. After a chapter on the development of the female sexual organs, especially under the compulsion of fashions, etc., the author then discusses many of the diseases that have become almost inheritances. Endometritis he considers as the central essential disease in evolutionary pathology, and gives it full consideration. Gonorrhœa, granular os, lacerations of the cervix, and of the perineum and subinvolution are discussed as to their causes and lasting consequences. Versions and flexions receive their shares of consideration. Diseases of the tubes are traced to atresia of uterus or vagina, endometritis, gonorrhœa, or obstruction by tumors, peritonitic adhesions, etc. Extra-uterine fœtation results probably invariably from inflammatory changes affecting the lumen of the tubes. Atresia of the utero-vaginal canal and peritonitis are discussed from the same standpoint. The evolutionary diseases of the ovaries are then taken up. Phlebitis and its frequent consequence, embolism are viewed as evolutionary; so is pelvic cellulitis. Cancer and myomata of the uterus are similarly treated. Then come chapters on general principles of treatment, and treatment of the various diseased conditions enumerated—the recommendations all being based on experience and observation and according to approved teachings of to-day. In its entirety, this is one of the most interesting works we have met, and opens up questions, based on history and daily observations, which must give new interest to the subject. The book is well conceived, well written, and, while scarcely detailing anything new, it will long remain as one of the most suggestive volumes in our library.

Annual Report of the Department of Health of the City of Chicago for the Year Ended December 31, 1894. ARTHUR R. REYNOLDS, M. D., Commissioner of Health, Chicago. 1895. Heavy paper. 8vo. Pp. 268. With Charts, Maps, and Statistics.

It is seldom a health department report of any city is found to contain so much of reading of general professional interest as this one. Of 16 cities claiming over 200,000 population, Chicago shows an annual death rate per 1,000 of only 15.24—the lowest of the entire number. The startling statement, however, is made that 354 persons were killed by railroad and street-car accidents; and 294 deaths resulted from suicide—chiefly by opium and carbolic acid. The death rate among the colored population (24,889) was 26.67 per thousand (or 664 in all). "It is a recognized fact

that the mortality among colored people in cities has enormously increased since the Civil War; and it is equally well recognized that the causes of this increase are beyond the scope of sanitary administration *per se*." Many other points of live interest are brought out to which space does not permit us to refer; but we may add that we know of no city where more pains-taking care has been exerted to give a correct record, or to point out more plainly the chief preventable causes of death. It is a model report.

Care of the Baby—A Manual for Mothers and Nurses. By J. P. CROZER GRIFFITH, M. D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania, etc. Philadelphia: W. B. Saunders. 1895. Small 8vo. Cloth. $1.50.

This is a well written, authoritative work, "containing practical directions for the management of infancy and childhood in health and disease," which can safely be placed in the hands of nurses as a text-book or of intelligent mothers as a guide. It is written in plain language, easily comprehended, filled with details, such as the physician would give, and well illustrated whenever illustrations are needed. After the introductory chapter, it speaks of things useful before the baby comes, of the baby itself—its growth, toilet, clothes, feeding, exercise, sleep, nurses, rooms, etc.—all that concerns the baby in health and common diseases.

Pathology and Treatment of Diseases of the Skin for Practitioners and Students. By DR. MORIZ KAPOSI, Professor of Dermatology and Syphilis, and Chief of the Clinic and Division for Skin Diseases in the Vienna University. *With 84 Illustrations. Translation of the Last German Edition under the Supervision* of JAMES C. JOHNSTON, M. D. New York: William Wood & Co. 1895. Large 8vo. Pp. 684. Leather, $6.50; Extra muslin, $5.50.

This book in the original is the standard text-book in the Austrian and German Universities, and a French translation is the standard in France. It may be expected that this excellent translation will receive a like popularity in this country. Kaposi was the student and associate of Hebra, who so thoroughly revolutionized the study of dermatology as to bring order out of chaos; so that the teachings of this book in the form of brilliant lectures represent the views of Hebra modified by the advancement of dermatological science. Dr. George Henry Fox well emphasizes the excellence of the work by the statement that, "as a descriptive

writer, Prof. Kaposi is unsurpassed; and in his lectures, not only the common, but many of the rarest forms of skin diseases are depicted with a most astonishing fidelity to nature." Such praise from one so able to discuss the questions involved must at once place the work on the front shelf of practitioners, and be adopted by all teachers and students, either as a text-book or book of reference. The work covers the whole field of dermatology as ordinarily understood, and as such must be adopted as the standard by English-speaking practitioners and medical students everywhere.

Transactions of the Southern Surgical and Gynæcological Association. Vol. VII. Session Held in Charleston, S. C., November 13, 14 and 15, 1894. Cloth. 8vo. Pp. 336.

The Publishing Committee, under direction of the most worthy Secretary, Dr. W. E. B. Davis, of Birmingham, Ala., deserve great credit for the fine appearance of this valuable volume of *Transactions*. This journal reported synopses of most of the papers last December and January. The Association now numbers about 150 members. The next meeting is to convene in Washington, D. C., on second Tuesday in November, 1895.

Relation of Diseases of the Eye to General Diseases. By MAX KNIES, Professor Extraordinary at the University of Freiburg. *Forming a Supplementary Volume to every Manual and Text-Book of Practical Medicine and Ophthalmology*, Edited by HENRY D. NOYES, A. M., M. D., Professor of Ophthalmology and Otology in Bellevue Hospital Medical College, etc., etc. New York: William Wood, Son & Co. 1895. 8vo. 470 pages. *Illustrated.* Extra muslin. Price, $4.25.

This is a work of as much value to the general practitioner as to the specialist in ophthalomology. As a help in diagnosis of nervous diseases, infectious diseases, constitutional diseases, etc., it is invaluable, for we know of no other one book that attempts the explanation of affected eyes in these several classes of diseases, while at the same time it points out the conditions to be expected or found. The research of the author is something really wonderful—not so much in simply copying bibliographical references scattered through books and journals of every language as in a brief statement as to what is authoritatively said with reference to changes in the eye in the course of diseases. Indeed, until one examines the book, page by page, or its excellent

index, he is not aware that many diseases named are accompanied by special eye changes. To us who represent the school of general practitioners, this work will prove of constant value, and many a time will it be called in requisition to aid us in diagnosis. As for the specialists, none can do without it, for in consultations he must know the bearings of the changes he recognizes, and they render assistance to the general practitioner.

Lectures on the Diagnosis of Abdominal Tumors. By WILLIAM OSLER, M. D., Professor of Medicine, Johns Hopkins University. *Reprinted from the New York Medical Journal, 1894.* New York: D. Appleton & Co. 1895. Cloth. 8vo. Pp. 192.

The eminence of the author of these Lectures, "Delivered to the Post-Graduate Class of Johns Hopkins Hospital, 1893," on a subject so difficult, as it sometimes appears, makes us glad to have them collected in book form—even though no effort at revision seems to have been made, and though no index is appended to afford easy reference to points discussed. The Lectures first describe cases and then speaks in detail of the measures adopted in diagnosing them. The title indicates the scope of the book, but the pressure on our pages do not permit a critical analysis. But the book is valuable as a guide to every practitioner, and is written in an easy style, which adds interest to the study of the questions.

Journal of American Medical Association Advertisements.

The Trustees of this national journal (to which all doctors who are able should give their subscription support) have instructed the Editor, with the termination of present contracts, "to accept no advertisements of medicinal preparations, the proprietors of which do not give a formula containing the official or chemic name and quantity of each composing ingredient, to be inserted as a part of the advertisement."

Gift to Woman's Medical College, Cincinnati.

Mr. and Mrs. Alexander McDonald have given a building worth $20,000 to the Woman's Medical College of the Presbyterian Hospital in Cincinnati in honor of their daughter, Mrs. Laura McD. Stalls. The College is to be known as the Laura Medical College.

Editorial.

Medical Society of Virginia.

The Twenty-Sixth Annual Session will convene in Wytheville, Va., at 8 P. M., Tuesday, September 3d, 1895, and will continue in session through Thursday—possibly Friday. The preliminary postal announcement is being issued. The time of meeting being in advance of the opening of schools and colleges, and Wytheville itself being a favorite summer mountainous resort for health and pleasure, there is every reason to hope for a large attendance—including many distinguished visitors, who will add profit to the proceedings. We are advised that the Committee of Arrangements is perfecting its plans for the entertainment of the Society, and we feel assured of the display of hospitalities so characteristic of the profession and citizens of that section. Wytheville is 83 miles west of Roanoke, on the Norfolk and Western Railroad, and the usual terms, it may be expected, will be made with lines of travel, hotels, etc., which will be announced in detail in the circular announcement, to be issued August 1st. The able efforts of the President, Dr. Robt. J. Preston, of Marion, Va., aided by the untiring zeal of the profession of his section, are resulting in good. The total number of Fellows on adjournment of the Session of 1894 was 868. If members throughout the State will only exert themselves a little to interest their worthy neighbors, the membership can be easily made to much exceed 1,000 active Fellows. Such an addition this year would include nearly all the *worthy* regular practitioners in Virginia. Blanks for applications for membership will be supplied in any required number on request made to the Recording Secretary, Dr. Landon B. Edwards, Richmond, Va.

The Medical Society of the State of West Virginia

Held its Twenty-Eighth Annual Meeting in Davis, W. Va., June 26, 27 and 28, 1895. Hotel rates, $1 per day. Banquet, night of June 28th; arrangements for fishing excursions were also made. Indications were favorable for a large attendance and increase of membership. Many papers were promised. Among those announced were: *Malignant Tumors; their Treatment*, by Dr. Ashford Brown, of Webster; *The Evil Influence of Preconceived Ideas in Medicine*, by Dr. L. F. Roush, of New Haven; *Gunshot Injury*

of the Brain, by Dr. C. S Hoffman, of Keyser; *Pulsating Exophthalmos*, by Dr. V. T. Churchman, of Charleston; *Early Extra-Uterine Pregnancy; its Nature, Diagnosis and Treatment*, by Dr. S. L. Jepson, of Wheeling; *Essays*, by Dr. W. H. Sharp, of Parkersburg, and L. D. Wilson, of Wheeling; *Reports on New Remedies: Medical*, by Dr. E. A. Hildreth, of Wheeling, and *Surgical*, by Dr. J. Schwinn, of Wheeling. *District Committee Reports on State Medicine: First*, Dr. C. F. Ulrich, of Wheeling; *Second*, Dr. B. M. Smith, of Davis; *Third*, Dr. W. P. Ewing, of Charleston; *Fourth*, Dr. A. T. Cherry. *Address for the Profession*, by Dr. J. W. Johnston. Dr. J. P. Reed presented the *Report on Necrology*. Dr. D. Mayer, of Charleston, *President*, of course, presented an *Address*. Drs.C. S. Hoffman, of Keyser, V. T. Churchman, of Charleston, and W. F. Keefer, of Parkersburg, are *Vice-Presidents;* Dr. G. A. Aschman, of Wheeling, is *Secretary*, and Dr. J. A Campbell, of Wheeling, is *Treasurer*. Dr. B. M. Smith, of Davis, was Chairman of Committee of Arrangements.

Volunteer Papers had precedence in the order in which they were handed in. We regret not receiving the announcement in time to have given it earlier publication.

The Catholic Church and Obstetrical Science.

A. Sabetti, S. J., Professor of Moral Theology, Woodstock, Md., protests (*Med. Rec.*, June 22, 1895,) against the "utterly loose and misleading statements" an anonymous writer makes with reference to the *attitude of the Catholic Church to craniotomy, etc.* The objectionable statements are:

(a) That Rome has never condemned craniotomy;

(b) That Catholic theologians, and in particular the Jesuit Father Lehmkuhl, are in favor of it;

(c) That this operation in itself is not wrong, for it is demanded both by necessity and science.

In Prof. Sabetti's protest against such teachings as the above, he remarks: "We have, as a matter of fact, four answers from Rome on this question. The *first* was given November 28th, 1872, by the Sacred Penitentiary during the first stage of the discussion. The *second* was given December 10th, 1883, to Mons. Dabert, Bishop of Perigneux, in France, in which answer Cardinal Bilio states that the Sacred Congregation of Inquisition is still examining the question. The *third* answer, dated May 31st, 1884, sent by Cardinal Monaco La Valleta to Cardinal Caversi, Archbishop of Lyons, states: "The cardinals of this congrega-

tion have carefully weighed the doubt proposed by your Eminence, as to whether it would be safe to teach in Catholic schools, that the surgical operation called craniotomy is lawful, when, on the one hand, mother and child will die, if recourse is not had to the operation; and, on the other, if such recourse is had, the mother will be saved at the expense of the child's life. After long and mature consideration, after close scrutiny of the views advocated in this matter by Catholic men of science and submitted by your Eminence to this congregation, we think it incumbent on us to answer that 'It cannot be safely taught.'" Rome spoke for the *fourth* time on August 19th, 1889, as follows: "We, the cardinals in committee assembled, have come to this conclusion, that in accordance with the declaration on May 28, 1884, it cannot be safely taught in Catholic schools, that the surgical operation known as craniotomy is lawful, and the same is to be said of whatever surgical operation aims directly at the killing of the fœtus or of the pregnant mother. I acquaint your Lordship with this decision, that you make it known to the professors of the medical faculty of the Catholic University of Lille."

Father Lehmkuhl and others, during the first period of discussion, admitted doubts and ventured tentative solutions; but afterward fell into line, and now, all to a man, brand as morally unlawful craniotomy and every such operation.

"If both Rome and theologians condemn craniotomy, it is useless for Catholics to inquire whether any intrinsic reason may be found in its favor. * * * Craniotomy must be called to-day, as it was called many years ago by Archbishop Kendrick, of Baltimore, *immune facinus*, a monstrous crime. And to speak of 'science' and 'necessity,' that we may connive at such crime, is, to say the least, ridiculous. Science is advanced only by truth, and necessity, however great, cannot be admitted as an excuse for evil-doing. Is it not to be wondered at how inconsistent some of our friends are, who, while they are perpetually slandering the Jesuits for that famous 'The end justifies the means,' wish to kill the child in order to save the mother? The Jesuits will never allow craniotomy for that very reason, because the end does not justify the means."

Such teachings of any Church must be objected to, and remain a dead letter, when the conscientious physician is confronted with the responsibility of deciding whether he will permit *both* mother and child to die, when one *must* in-

evitably die. Not to sacrifice the fœtus under certain circumstances may be to knowingly and purposely sacrifice the mother also. Surely the Good Physician never taught the doctrine to kill two because one has to be destroyed. By common acceptation, to permit a preventable death is to commit a monstrous crime.

Southern Medical Record in New Hands.

This valuable Atlanta exchange, long under the management of Dr. Dan Howell, has been bought by Dr. Bernard Wolff, of Atlanta, Ga., by whom it will be conducted in the future. Dr. Wolff needs no introduction to our readers, for they have, for the past year, had opportunities to foresee his ability and to recognize his special fitness for the duties of editor and medical journal manager. We are glad that Dr. Wolff consents to continne in charge of the Department of the Venereal and Skin Diseases in the *Virginia Medical Monthly*. As excellent an exchange as the *Southern Medical Record* has been, we predict improvements and the early results of new vim and pluck. Dr. Wolff has many friends in Richmond, where he formerly resided. He has won distinction as Lecturer on Skin and Venereal Diseases in the Southern Medical College, and, wherever known, he has made numerous warm friends. We take special pleasure in commending Dr. Wolff and the *Southern Medical Record* to brother editors, to the medical profession, and advertisers.

The Medical and Surgical Reporter

Has removed from Philadelphia, where it has been published for forty-three years, to quarters in the magnificent new Constable Building, Nos. 109 and 111 Fifth Avenue (corner of Eighteenth street), *New York, N. Y.* The *Reporter* moves to New York not to seek a living, but it goes as a well-established business, seeking opportunities for enlargement and growth. It is our sincere wish that this estimable weekly may make the same progress in New York that it has in Philadelphia.

Dr. Hugh McGuire

Has moved from Richmond, Va., to Cumberland, Md. He passed the Maryland Medical Examining Board during its first session in May, 1895. He carries with him a good record while associated with his distinguished father, Dr. Hunter McGuire, and the good wishes of many friends. He retains his membership in the Medical Society of Virginia.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 5. WHOLE NUMBER, 257.

RICHMOND, AUGUST, 1895.

Original Communications.

Art. I.—Concerning the Treatment of Long Standing Cases of Empyema of the Maxillary Antrum and Frontal Sinus—A Plea for a Large Opening and Dry Treatment.

By JOHN DUNN, M. A., M. D., of Richmond, Va.,

Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye, University College of Medicine; One of the Surgeons to Richmond Eye, Ear, Throat and Nose Infirmary, etc.

In a healthy subject, inflammations of the lining membrane of the maxillary and frontal sinuses, of such severity as to result in the production of a purulent discharge, do not infrequently pass through regular stages and get entirely well with the simplest treatment or with no treatment—provided always that the prime cause is removed. Where the cause of the inflammation persists, however, as, *e. g.*, neglected abscess at root of tooth, occlusion by certain means of the maxillo-nasal opening, etc., it is not to be hoped for that the inflammation will subside so long as the cause remains untreated. I have already reported two cases of what were practically spontaneous cures in cases of acute empyema of the maxillary antrum; one resulted

from inflammation of the lining membrane following or simultaneous with an attack of acute rhinitis; the other occurred in a gentleman from whose septum a large spur had been removed, and in whose case chromic acid had been used. In this latter case, the patient had an acute rhinitis, from exposure, before the wound of the septum had healed.

Cases of empyema of the maxillary antrum, resulting from abscess of a tooth, may get well after the extraction of the tooth, provided the inflammation has not existed for too long a time.

The object of this article is to *make a plea in cases of long standing empyema, of either the frontal or maxillary sinus, for a large opening and dry treatment.*

In the first place, let us consider for a moment the maxillary antrum. Its variations in size, in contour, in the cast of its inner walls are too numerous to mention. It is not out of place, however, to here call attention to some of them. The antral cavity may be pyramidal in shape, with its base toward the nasal cavity; it may be oval, with its small end below; it may be irregularly cuboidal; it may be shaped like a tooth with only the fang extending downward; it may consist of two or more cavities opening into a larger one; one antral cavity may be very minute in one cheek bone, very large in the other. Its internal walls may be smooth, or from them may project bony partitions subdividing the antral cavity variously. The external root of the second molar furnishes in most cases the most direct path into the antrum at its lowest point; while, on the other hand, in other cases, should we choose this path, we should force our drill into the floor of the nose, missing the antral cavity altogether. Again, the roots of one or more teeth may project into the antral cavity.

Recognizing these possible variations and many others, in the face of the general rule that the maxillary antrum in the adult is a well developed, roomy cavity, it is our duty to carefully examine with a probe the contour of every

antrum we have to open—open it by whatever method we may choose.

It is a notorious fact often, when "pus in the antrum" has been diagnosed and the antrum opened, that treatment in the majority of cases has to be pursued until both patient and physician get horribly tired of the job of "washing out the cavity." Cures sometimes result; sometimes they do not; and the best books on the subject tell us that daily treatment is often necessary for many months after the maxillary antrum has been opened. And that this is so results from the fact that the pathological significance of empyema of the antrum is not generally rightly appreciated, the possible anatomical variations of this cavity are not taken into account, and from the further fact that, *owing to these anatomical variations, it not infrequently happens that antiseptic fluids used for flushing the maxillary antrum serve no other purpose than to wash off the free discharges and then to prevent the possibility of a cure taking place.* How does this happen? Let us suppose, for the sake of example, that the maxillary antral cavity is subdivided by the above mentioned bony partitions into two or more smaller apartments, as it were. The usual opening through the roof of a tooth drains one of these apartments. It serves as a drain for the other or others only so far as there exists an overflow. Now, let us syringe out the antrum with any safe antiseptic solution. We may use fluid enough to wash all of the free discharge from all of the apartments into which the antrum is divided—and our antrum is then free? Not at all. There will remain a certain amount of the antiseptic fluid in the bottom of the lateral apartments. What of that? Simply this: *No limited amount of antiseptic fluid has an unlimited amount of antiseptic power.* The antiseptic power of the fluid remaining in the bottom of the apartments becomes exhausted. What then? Why, we have left a certain amount of what is practically dirty water. *This water is soon raised to nearly blood heat, and in this warm fluid and in the water-soaked diseased membranes beneath it, patho-*

genic germs find all the conditions favorable for the unlimited free coinage of pus.

We do not deny that this may to a certain extent be avoided by frequent and copious washings, but, at the same time, frequent and copious washings, besides the fact that few patients will carry them out properly, do not meet all of the requirements of the existing conditions.

Few cases of empyema of the antrum are properly reported; for, although medical literature abounds in the reports of such cases, almost all the operators seem to have been satisfied with merely opening the antrum, and with the fact that their diagnosis had been proven correct by the escape of pus. Exploration of the antrum merely to determine whether or not it contains pus is so simple, and, save under exceptional circumstances, so little likely to be followed by any unpleasant results, that wherever the possibility of empyema is suspected there are no reasons why we should not have recourse to it, instead of weighing indefinitely the pros and cons furnished by trans-illumination or other diagnostic means generally made use of in doubtful cases.

In empyema of the antrum of long standing, not only should the operator know as the result of his operation that the antrum contains purulent matter, but he should also know the contour of the antral cavity, and also how far the antral lining membrane has undergone pathological changes. These things cannot be known from examination made in the usual way through the molar root. Hence, some other channel must be sought. Intra-nasal openings, however easy they are to make, will also fail to furnish us the desired information. We must then have recourse to the outer maxillary wall in the region of the canine fossa. With a drill a small hole is made; this hole should be enlarged to a greater or less degree, depending upon the size and character of the contents of the antrum, or we may open the antrum through the second molar root, and enlarge this opening upwards with the drill. Should the membrane furnishing the pus require curetting, an opening

should be made large enough to do this thoroughly. When we have become satisfied with the size of our external opening—satisfied with our knowledge of the contour of the inner walls of the antrum and of the antral contents—we should endeavor to discover the condition of the naso-maxillary communication, and, should this be found to be closed, it will be our duty, at the time of the operation or later, to make an opening into the nasal cavity. Generally, however, either the natural communication is open or becomes so after a few days' treatment of the antrum.

In regard to the after treatment: The purulent contents of the antrum should be removed, and this can be done most satisfactorily by packing the cavity with iodoform gauze and then withdrawing and replacing fresh gauze until this comes away dry. When we have become satisfied that the antral walls are dry, they should be well dusted with some antiseptic powder—I prefer one consisting of equal parts of iodoform and boracic acid. The antrum should then be packed with iodoform gauze, which should be removed, the cavity thoroughly dried, dusted anew with the powder, and fresh gauze replaced *twice a day* until there is a cessation of the purulent discharge. The judicious use of peroxide of oxygen is to be here advised.

When the lining membrane of the antrum no longer furnishes pus, it continues to form for a considerable time a mucous discharge. It is during this period that careful treatment is necessary to prevent a relapse. This mucous discharge will, under treatment, become less and less, and finally disappear if properly attended to. We can make use of peroxide of hydrogen to tell us when the discharge has practically ceased to be purulent and has become mucous. The treatment during the *mucous* stage should consist in cleansing the antrum and dusting with the above mentioned powder. Occasional applications of nitrate of silver solutions have often excellent effect, but we should bear in mind that after their use the discharge may increase in quantity for twenty-four hours.

Art. II.—Electricity versus Old Methods in Female Pelvic Disorders.*

By F. B. BISHOP, M. D., Washington, D. C.

The subject here presented for discussion by the members of the Society this evening, is one which has attracted the attention of some of the ablest thinkers and writers of the day; yet, it is a subject of such vast importance, that I venture to add my mite to this great ocean of thought, and present to you, in as concise a manner as possible, my experience in this class of work.

As an electrician and neurologist, it is impossible for me to ignore these cases, as it must be the experience of all physicians, that a great number of women consult them on account of various forms of nervous troubles, which are, either directly or indirectly, traceable to some disorder of the pelvic viscera. These women have, generally, already consulted one or more general practitioners, and perhaps a gynæcologist or two, before coming to the electrician. In fact, the antipathy, either natural or acquired, to electricity is so common, that very few cases of any kind fall into the hands of the electrician that have not been already doctored by every other means known to the profession, except perhaps surgery, and this in many cases has also been tried. So, you see, the majority of our cases are chronic.

It is not my desire to detract from the glorious record that surgery has made in many otherwise incurable diseases of the pelvic viscera, nor the great advance that has been made in the knowledge of the action of drugs and their administration; but we must admit that drugs have little or no permanent beneficial effect upon an hysterical or neurasthenic condition having for its origin a pelvic irritation. This *pelvic irritation* may manifest itself only in some irregularities of the menses, as menorrhagia or metrorrhagia, or in obstructive, inflammatory or neuralgic dys-

* Read at the meeting of the Medical and Surgical Society of the District of Columbia, May 13th, 1895.

menorrhœa, or perhaps the menstrual function may be performed in a perfectly natural way—the only symptoms of a pathological nature being a more or less severe leucorrhœa.

Again, a *neuralgia* of one or all of the pelvic viscera may exist without inflammation; an undeveloped uterus may appear to be the only cause of one or many painful and nervous symptoms; yet we know that, with these slight, or apparently slight, conditions, we often find the most severe nervous manifestations, which surgery and medicine are alike powerless to permanently relieve.

The physician's office has for years been flooded by enterprising proprietary medicine men, who have offered their nostrums and their advice to the doctors, but all with little or no benefit to the doctor or his patient. There are, of course, certain drugs which may be relied upon to produce a certain amount of relief for a time; but nothing, I believe, has yet been discovered in the form of drugs that will produce any permanent good effects.

On the other hand, there are certain surgical and mechanical methods which have had their periods of progress and decline. They are still in use by many, perhaps with good results, but they are often clumsy, painful, and, as a rule, their results for good are only temporary. The *lacerated and ulcerated cervix* was, at one time, treated almost entirely with nitrate of silver; lunar caustic was pushed into the subinvoluted uterus, and later 25 to 50 per cent. solutions of chloride of zinc, strong carbolic acid, Churchill's tincture of iodine, etc., were used, to stimulate contraction of the muscular fibres, with some good results, but much pain. The lacerated cervix was held accountable for many troubles, and was sewed up by Dr. Emmett. The flexed cervix was slit up by Sims. Flushing the vagina with hot water, the frequent use of tampons of glycerin, alum and other astringents to deplete the pelvic organs, when large and inflamed, were used and are still in use, and give great relief; but, in my opinion, the relief in the great majority of cases is only temporary, as these remedies only remove symptoms, while the true cause of the trouble still remains.

This cause is a lack of equilibrium between the motor, sensory, vaso-motor and sympathetic system of nerves. Perhaps there is no doubt that the most frequent cause of this lack of equilibrium in young women is an error in the present modes of education and dress among the middle and upper classes, together with loss of sleep and want of open-air exercise, while with the poorer classes hard work, poor food, poorly ventilated living apartments, are conducive to the same pathological conditions, characterized by an incomplete development of the pelvic viscera, in consequence of a bad supply of poor blood at the developing period of a girl's life. In consequence, we find the uterus poorly developed, the cervix elongated, pointed, and often acutely flexed in the vagina, resting upon the pelvic floor; its muscular structure is flabby and pale, and the ovaries and tubes, and in fact the whole pelvic viscera, suffer from want of nutrition. Hence, the pain and nervousness of these young women when these organs attempt to perform the functions of menstruation.

In order that mind and body may develop together, a year or two out of a girl's school life at this time would add much to her future happiness, and by careful reading at home, an hour or two a day, would detract but little from her education.

The methods of treatment mentioned have all been used with more or less relief to the patients, and, for a time, satisfaction to the physician; but the symptoms that have been relieved soon return, and the patients are, as a rule, as bad as ever.

The question at issue is, Do we possess, in electricity, an agent more certain in its effects upon diseases of the female pelvic organs, than the other mechanical, medical and surgical agents mentioned?

It is the expressed opinion of Apostoli, Martin, Goelet, Massey, and a host of others, that we do. My experience has led me to abandon all other methods of treatment, and instead of success waning with time, it has increased with experience.

In cases of *non-developed uteri*, accompanied by irregularities of menstruation, with pain and extreme nervousness, the patients dreading and fearing the approach of the period, nothing, in my experience, acts so surely and quickly in restoring the functions and developing the muscular tissue of the uterus, and in fact all the pelvic organs, as the faradic current of moderate strength and slow interruption, used three or four times a week. The nerves and muscles are toned up, and the long, flabby cervix gradually fills out; and where acute flexion exists, it is generally straightened, and as the pelvic organs improve, the general health improves also. In cases of stenosis, where formerly rapid or gradual dilatation was the method lauded and practised, with much pain and suffering to the patient, a cure may now, with almost certainty, be painlessly effected by electrolysis; and while the stenosis is being relieved, the nerves and muscles are toned, and the equilibrium of the nervous and circulatory systems is restored, thereby bringing about, in the majority of cases, a permanent cure.

In cases of *dysmenorrhœa*, where there is not actual stenosis, and where there is slight flexion of the cervix, with a painful spot just at the bend, I have found surest relief from the galvanic current of moderate strength, combined with the faradic current of high tension and rapid vibrations.

Endometritis, with flabby and patulous os, and with muco-purulent and muco-sanguinous discharge, tender and bleeding with the most delicate touch or manipulation, the body enlarged and heavy, causes many nervous and painful symptoms.

Whether these conditions be simple or gonorrhœal, in the vast majority of cases they are alike amenable to the galvanic current. With the positive pole cautiously applied to the interior of the uterus, with zinc electrode and 20 to 30 M. A. current, the uterus returns gradually to its normal size, and resumes its regular functions. At the same time, the pain ceases, and the nervous symptoms disappear. If the uterus should not, after a month or two, return to its

normal size, I use alternately galvanism and faradism, using always the coarse wire and slow interruptions. The current, passing from a large sponge over the uterus on the abdomen, to a uterine electrode inside the uterus, brings the whole pelvic viscera under the action of the current, and acts beneficially upon every nerve and muscle in the pelvis. The old method of treating these cases by powerful caustics and astringents and by curettage, do not offer the same benefits, and are positively not followed by the same good results. Subinvolutions are treated in pretty much the same way, with perhaps more faradism.

In *retroversion*, where the old Hodge pessary was used to give artificial support to the uterus, we now, by the aid of electricity, restore the uterus to its normal position by strengthening the uterine and vaginal walls as well as the broad and round ligaments, and restoring nutrition generally.

When there are *adhesions*, I use the galvanic current either with the douche electrode or an electrode made by a tampon of absorbent cotton, the negative pole being used in the vagina with from 15 to 30 M. A., and the positive, a large sponge on the abdomen. When the adhesions have been relieved, I then try to place the womb in normal position before treating. Whether this can or cannot be done, I place my patient in the Sims' position, with surface electrodes on each side over ligaments, with active electrode just inside the cervix, and turn on my faradic current with coarse wire and slow interruptions to the tolerance of the patient for about five minutes. This should be done at least every other day until the uterus resumes its normal position, which may be several months.

Lacerated cervix.—This is a condition which, at times, without doubt, requires the aid of the surgeon; yet I have been very agreeably surprised to see how insignificant an extensive laceration appeared after curing the accompanying metritis, endometritis, or subinvolution by galvanism and faradism.

Ovarian neuralgia.—The lack of equilibrium between the pelvic circulatory and nervous systems often gives expression to that vague condition known as ovarian neuralgia, and many times when the uterus to all appearances is perfectly healthy. In these cases we have the severe pain before and during menstruation, accompanied very often by fainting spells and hysterical eclampsia. Many of these cases are unaccompanied by inflammation, and a few days after the flow has ceased, there is very little or no complaint of pain upon pressure over the region of the ovaries. I have seen these cases for years, and have known them treated by many medicines and methods, even to the extirpation of the ovaries, and still the pain and convulsions would continue; but, in the proper use of electricity, I am sure we have an agent of great value in all cases, and, in many, a complete cure—the strong galvanic current, 40 to 50 M. A., the negative pole as near the painful ovaries, on the inside, as possible, with large surface electrode upon the abdomen. Here, also, the faradic current of tension does noble work; with unipolar or bipolar electrode in the vagina, I gradually throw in the tension of the entire 8,000 feet of wire of my Rockwell coil, the patient invariably experiencing great relief from pain and nervousness after the treatment. The current of tension and rapid vibrations with small amperage is becoming more prominent as an anæsthetic in all forms of neuralgic pain as we become more familiar with this great agent, electricity.

By a series of specially constructed coils, I am enabled to get a very much finer vibration from my static machine, in the form of the "Static Induced Current," than by any other contrivance that I have yet seen. I am making experiments, and hope soon to use this current in uterine and other pelvic troubles, as the tension is so much greater, while the amperage is very much lower than in any form of current that we have at our command in the treatment of disease. By the aid of these coils, I give the static induced current to the entire body through my metal plat-

form and my modification of Dr. Kellogg's static cage. In another paper, I shall have something to say about the sinusoidal current as derived from a most complete apparatus designed by and manufactured for Dr. J. H. Kellogg, of Battle Creek, Mich.

On the question of *pus tubes*, I can have but little to say, except that I believe in the early stages, before the tubes have actually filled with pus, that electricity would often dissipate the trouble, and thereby save many women their ovaries and tubes; but when the case has fully matured, then, of course, the woman must trust to nature or the surgeon's knife, or to drainage by tubal catheterization through the uterus, as successfully performed in one or more cases by Dr. L. Eliot, of this city.

In conclusion, I wish to be most emphatically understood that I do not think electricity will entirely supersede surgery or medicine; but I do claim that to both it is a valuable aid in diagnosis, and that the field of usefulness for this agent is gradually widening, and many women, destroyed by the habitual use of opiates or alcoholic stimulants, or subjected to the surgeon's knife, as the only means of relief, could, no doubt, by the careful and skilful use of electricity at the proper time, have been cured, become mothers and useful members of society.

By its stimulant, tonic and sedative action, electricity acts directly upon the muscle and nerve, and also through the nerve centres, and, by its stimulant and tonic action, upon localized nerves and muscles, blood is brought directly to the parts, and by the rapid electric waves, molecular changes take place, nutrition is established, and the starved, depleted and flabby tissues become healthy, and the functions of the female pelvic organs are performed in a healthy and natural manner.

1913 *I Street, N. W.*

Art. III.—Galvanism in Office Practice.*

By J. C. LeHARDY, M. D., of Savannah, Ga.

It was my intention to prepare for the members of this Association a sketch showing the progress that has been made in the application of electricity in medicine, surgery and gynæcology during the last decade, but I have been deprived of this pleasure by other work, and only had the time to hunt up the records of a few cases treated exclusively by electricity.

Case I.—A handsome and healthy brunette of twenty-four years, from North Carolina, had *upon her face a very thick and silky beard*, "moustache" and "impériale," that would have been the pride of any man, but intolerable to a woman, and she determined to get rid of it at any sacrifice. I started the treatment with the orthodox iridio-platinum needle, passing a weak current after each insertion, but the pain was so acute, and the progress so slow, that I resorted to depilation by introducing caustic potash with a needle. I soon discovered, however, that one application was not sufficient to destroy the bulb; two, or even three, were often needed. The severity of the pain, and the formation of deep ulcers, demonstrated this method to be worthless. I next procured fine cambric needles (No. 12); these I inserted along the shaft and well into the bulb of each hair; on one side of the face twenty-five to fifty needles were introduced at each sitting, taking care to separate the needles well, to prevent inflammation.

The insertion of these needles, if carefully done, gives no pain whatever. A soft Turkish sponge, moistened with salt water, was then placed in contact with the needles and the surrounding skin. Upon this I pressed the *negative* electrode, while the positive was held by the patient. I then turned on a weak current from the battery, and increased it gradually until it was sensibly felt.

At the expiration of from five to eight minutes, the current was closed, the sponge removed, and the needle withdrawn. Where the needles had been inserted, there was a small white spot, the bulb was destroyed, and hair could be removed easily. This process was repeated every few days until the last bulb was destroyed and the last hair removed.

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*Read before the Georgia State Medical Association, May, 1895.

No unsightly marks were left except the few cicatrices produced by caustic potash, and the lady was fully rewarded for her fortitude, patience and determination. This experiment proved to be eminently successful. The insertion of needles was comparatively easy and expeditious. The galvanic current being spread over a large surface and at many points, was borne readily, giving a minimum of pain, while the results were very gratifying. Having repeated this treatment in a number of cases since and obtained good results, I can recommend it to the profession.

Case II.—A spinster of forty-three, department clerk at Washington, D. C., visiting her sister in this city, was taken with a violent *uterine hæmorrhage* in transit; she was brought to my office and placed upon the operating-chair in a fainting condition. As soon as possible, a folded sheet, wrung out of hot salt and water, was spread over the abdomen and a speculum inserted. The negative electrode was placed upon the sheet immediately over the uterus, while the other, an olive-pointed electrode, was introduced in the uterine cavity and held there, while the current, derived from a battery of 150 zinc and carbon cells, was applied. At the expiration of three minutes, the bleeding had ceased, the current was closed, and the electrodes removed. She was soon strong enough to be driven home. No hæmorrhage has since recurred. As soon as she was able to travel, I sent her to the "land of the skies"—North Carolina. After remaining two weeks there, she returned to the city. A bimanual examination revealed the existence of three distinct tumors, hard and nodulated to the touch; one, the size of an orange, was felt through Douglas' cul-de-sac; the others through the abdominal walls; the upper one (as large as a walnut) was imbedded in the tissues of the fundus, while the other (the size of a hen's egg) was felt immediately above the pubic bone. The womb was high up in the pelvis, and its length 4½ inches. Having but six weeks in which to give my patient the benefit of Apostoli's treatment, and as I had lost much time in two preceding cases from suppurative inflammation caused by the insertion of sharp-pointed electrodes into the tissues of the tumor, I resolved to apply the current without abrading any tissue. The wet sheet was applied over the abdomen, and the positive electrode placed in contact therewith; the negative electrode, globular in shape, and covered over with a fenestrated rubber cap, was placed in Douglas' cul-de-sac, the bright surface in contact with the protruding tumor, the

current of 150 cells was then gradually turned on, and continued as long as the patient could bear the pain, when it was switched off, to be turned on again after a short interval, so as to secure a contact of at least five minutes at each sitting. In the treatment of the other tumors, a smaller, olive-shaped electrode was passed into the uterine cavity, each tumor being treated consecutively on alternate days. The patient improving daily in health and strength, the treatment was not interrupted. There was no bleeding nor any appearance of the menses at the expected period. Forty days after the first application of the negative pole to the tumors, a marked diminution in their size was apparent to both the patient and myself. She then returned to her duties. One year later, I was informed by her physician that the three tumors had gradually but totally disappeared. That patient has since written me that the "change of life" had come, and that her health was better than ever before.

Case III.—A mulatto, twenty-eight years old; married five years; no children; was brought to my office on account of a continuous "bloody flow" from the genitals. A large *tumor filled the vagina* and protruded between the labia. With the right index finger in the rectum, the left hand pressing down, above the pubis, I found that it was a polypus pendant from the uterine neck. With difficulty I placed a platinum wire around the tumor close to the cervix; here it was tightened and the full current of a strong cautery battery applied, and the red hot wire soon cut through the growth. There was no bleeding; the tumor was removed with forceps; the stump thoroughly cauterized. A second application of the cautery wire was made a few days later and every vestige of the pedicle soon disappeared. The woman conceived two or three months afterwards.

Case IV.—A Spanish lady, fifty-three years of age—the worst case of *asthma* that I have ever met with—was placed upon the chair. In her efforts to breathe there was no perceptible motion of the chest walls; her face and neck were livid; the eyes protruding; the veins distended with black blood. A large sponge, moistened with salt water, was placed upon the back and sides of the neck and the positive electrode upon it. The current of fifty cells was turned on and the other electrode (carbon) was passed rapidly across the ribs of one side and then of the other, causing contraction, followed by a relaxation of the intercostal muscles. The effect upon the breathing was almost instantaneous. In a remarkably short time the color changed and the

breathing became more natural. At the expiration of five minutes the patient fell asleep upon the chair and was placed upon a sofa. After a long nap she took the cars and went home. The current of twenty five cells was applied daily for a week, twice a week for a month, and at irregular intervals afterwards.

Eight weeks after the first application, she had a mild attack of asthma brought on by imprudence in diet. Since May, 1882, she has had no return of the disease.

These cases will suffice to show some of the ways by which electricity may be utilized. The galvanic current has enabled me to stop the excruciating pains of angina pectoris and of cramps almost instantly; to give immediate relief to persons suffering from acute and chronic neuralgia; from torticollis, myalgia, muscular pain from overwork; from overdistension of the stomach and bowels by gas; from asthma, with muscular contraction, etc. With it I have stopped hysterical convulsions; restored the voice in aphonia and checked hæmorrhages in the nasal passages, throat, bowels, uterus, bladder, etc.; removed warts, nævi, hairy and other abnormal growths; amputated tumors upon the scalp, in the ear, nasal passages, throat, rectum, urethra, uterus, etc. I have used it with advantage as a cautery in some of the syphilides, chancroids, and other ulcers; caused the entire or partial absorption of large and small tumors; obliterated aneurisms and venous tumors.

The electric light is of great assistance in the examination of cavities and passages where it can be used. The electro-magnet has become the surgeon's chief detective. Let us not infer from this that electricity is the universal panacea. While it can be used to great advantage in many instances, it cannot as yet replace the knife or medicine in the hands of skillful physicians.

Upon certain individuals its effects are always disagreeable. I have had patients to scream even before the current was turned on, and others (as if dreading electrocution) would refuse to touch the electrodes. At times I have known it to intensify instead of relieving muscular or neuralgic pains, but these are rare exceptions. Through the

experience of forty years I have learned that electricity, although it is yet in its infancy, has a scope far greater than that of any other remedial agency; therefore I think that the time has come when every physician should use electricity in his practice; but, in order that this may be accomplished, there must be a great reduction in the price of all electro-medical appliances. If all that is superfluous and gaudy in electro-medical appliances now upon the market was left out, they could be manufactured at prices within the reach of every physician in this broad land.

Dr. Ben. H. Brodnax.

The *Cincinnati Medical Journal*, May, 1895, reproduced a photograph of this eminent "backwoods doctor," of Brodnax, La., which had been sent the editor without a thought of its appearing in print. "He has a good heart, loves his friends, can forget an injury, esteems his fellow-man, is proud of his profession, and is glad of the opportunity to do good, to ease pain, to help the weak and suffering." His record as practitioner and as a writer, in order that good may come of his contributions to journals, etc., is enviable. He practices the doctrines of the Code of Ethics that many others only preach.

The Hot Springs Doctors' Drummer to be Tagged.

Mayor Waters deserves credit for the stand he has taken in suppressing the disgraceful doctors' drummer. The Hot Springs Medical Society had exhausted all its powers in its effort to eradicate the nuisance. Now, however, the City Council has licensed the business of "doctors' drumming," but requires that the drummer for a physician *shall wear a badge stating that fact.* Of course this forewarns the visitor at the Springs. Warning circulars will also be distributed on each incoming train henceforth, and a Bureau of Information near the depot will furnish visitors assistance.

Art. IV.—Recovery of a Case of Progressive Spastic Ataxia Associated with Multiple Neuritis.*

By J. ALLISON HODGES, M. D., of Richmond, Va.,

Professor of Anatomy and Clinical Professor of Nervous and Mental Diseases, University College of Medicine, Richmond, Va.

Clinical cases of the combined scleroses are always interesting, for presenting a picture of commingled symptoms, as they always do, renders their study very attractive.

This case is reported more especially because of its favorable termination, and on account of the treatment employed, than from any peculiarities of symptoms that it exhibited.

The prognosis in such cases is always grave, most of them continuing for many years and some terminating fatally in a very short time. From its multiplicity of symptoms, it is also a difficult disease to diagnose, and we confidently hope that, in the near future, scientific investigation will separate the varied and multitudinous symptoms of this malady into several different diseases, and that thus the diagnosis as well as the prognosis may be influenced thereby.

I have purposely reported this case as one of *Ataxia Paraplegia Associated with Multiple Neuritis*, because while the symptoms of a disseminated neuritis may be present in many cases of the combined scleroses, still it is not usual to find these symptoms so markedly prominent as they were in this case. It is also true that one of the most frequent causes of this disease, as is the case of multiple neuritis, is syphilis; but, in this case, since the cure was effected without recourse to specific treatment, it is believed that this was not a factor in its causation.

It is yet unknown by neurologists whether this disease is a primary or secondary one. In my judgment, this particular case illustrates the most generally accepted theory that it is a secondary affection, for, from an elicitation of its history, there was evidently in the beginning a primary myelitis.

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*Read before the Richmond Academy of Medicine and Surgery, July 9th, 1895.

History of the Case.—Miss Jessie D., age 16 years, was in robust health up to November, 1893, when she received a severe fall at a skating rink, receiving the force of the blow at the lowermost part of the spinal column. She soon recovered from this accident to all appearances, feeling at times only a slight pain along the lower dorsal part of the spine. In about six weeks or two months, there was noticeable some impairment of sensation, slight rectal and vesical symptoms, and a muscular weakness in the lower extremities. There was also present a more or less constant cephalalgia, being more intense at the menstrual periods.

This condition continued for about three months subsequent to the fall, at which time she was compelled to resort to an invalid's chair, though she did have subsequently one interval of about three weeks' improvement. For the last year, however, she has been incapacitated from taking exercise on account of muscular weakness in her legs. During this period, also, she has exhibited symptoms of multiple neuritis, suffering much from tenderness of the muscles and nerves in both arms and legs, and some œdema of the feet, with temporary inflammation of the joints.

She was treated during this time for various diseases, such as neuralgia, rheumatism, hysteria, etc., but without avail, the tendency of the disease appearing to be progressive.

Symptoms upon entering the Hospital: On March 7th, 1895, she was referred to me and entered the Virginia Hospital. Her appearance at this time indicated a fair state of health; she was in cheerful spirits, and possessed a good appetite. Her family history was good, her mother being alive, but her father having died some years previously from pneumonia.

Upon examination, no vertebral lesion was discoverable, and while it was perfectly evident that she was suffering from multiple neuritis, still there were no deformities present. She could stand a few seconds, but the motor weakness in her legs was very manifest, the paralysis being a flaccid one without much muscular atrophy. There was some tenderness on pressure along the spinal column, and she complained of a dull sacral pain and of much inconvenience both from her bladder and rectum, but more especially the latter. She had good use of her upper extremities, except when suffering acutely from the co-existing neuritis. She could not sit up alone steadily, and, if her eyes were closed, she at once began to sway; neither could she touch

a given spot on her face with her index finger with closed eyes without considerable difficulty.

The tendon reflex of the knee was very much exaggerated, and the ankle clonus was readily obtainable. There was also some diminution of pupillary reflex to light.

The tendency in this case was apparently progressive, for during the seventeen months in which this patient had suffered, there had been a very gradual increase in the severity of her symptoms.

Treatment.—Being convinced that the existing symptoms were induced by the fall and a consequent overstrain and resulting myelitis, I determined to direct the treatment to that end. Consequently, the patient was ordered absolute rest and forced feeding as initiatory to subsequent methods of treatment. No medicines of any kind were ever given during the process of treatment, except occasional temporary expedients. The neuritis was treated by swathing the arms and legs in cotton batting enforced with a roller bandage. Later, gentle massage, hot baths and the use of the faradic current of high tension were employed. After three weeks of this treatment, symptoms of improvement as regards the neuritis were discernible, but there was little improvement noticeable in the other symptoms.

Spinal galvanization was then instituted, together with Swedish movements, and was continued to the end of the treatment. A weak labile current of from 10 to 15 milliamperes was used every alternate day, lasting from eight to fifteen minutes; the weaker the current and the longer the seance the more rapid seemed the improvement. At the end of the second month of treatment there was perceptible improvement, and, during the two succeeding weeks, the patient was able to stand erect for a few minutes. From this time on she made a rapid recovery, and on June 7th, just three months after being admitted, she was discharged from the Hospital, being at that time able to walk several blocks. Since then she has continued to improve, and while she still shows some evidence of Romberg's symptom, yet she does not fall, even if she attempts to walk with her eyes closed.

Being now deprived of local treatment because of her departure from the city, a prescription of medium doses of potassium iodide and arsenic have been ordered, and she gives fair promise of an ultimate radical recovery.

Art. V.—Phthisis Laryngis.*

By JOHNSON ELIOT, M. D., of Washington, D. C.

In reporting the following case, it should be understood that, whereas some received more or less temporary benefit, the majority of my cases of laryngeal phthisis were not as fortunate in recovery.

Fewer conditions enlist sympathy and interest more than those which involve the respiratory passages or interfere with the vocal functions or the ingestion of food.

This laryngeal affection in its origin is insidious, generally manifesting itself by slight impairment of voice, but when ulceration is lighted up, it progresses rapidly, running its course to a fatal termination in from a few months to eighteen months, the period being shorter than when tubercle attacks only the pulmonary tissues. Ordinarily, secondary to phthisis pulmonalis, it occasionally occurs as a primary affection. Mackenzie, Louis and Heinze's statistics show that in phthisis the larynx is attacked in from 30.6 per cent. to 33 per cent.; Schroetter's a trifle over 6 per cent., and Willigk 13.8 per cent. Bosworth, from whom this is quoted, reconciles the differences by stating that they include tubercular infiltration as well as ulceration. My own statistics, based upon a smaller number of cases, show the larynx involved in 15.6 per cent., and include only those in which ulceration had taken place. Catarrhal laryngitis cannot be considered a direct cause of the laryngeal involvement, as the inflammations are entirely dissimilar, though in the tubercular a laryngeal erosion may be a point of weakness, and in this way only a source of danger.

Heredity I have always thought greatly overestimated, and the reason for finding so many members of a family afflicted with tuberculosis was due to infection. Many are criminally careless. I recall a family in which three members were affected; the laws of hygiene, as well as those of

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* Read at the meeting of the Medical and Surgical Society of the District of Columbia, May 13th, 1895.

decency, were entirely abolished. The father, whom I had been called to attend, occupied a room adjoining that of his son and brother. His weakened condition prevented his sitting up. Whenever it became necessary to expectorate, which was often, he would from his bed make use of the entire floor as a spittoon. The windows were kept closed and the room was necessarily stuffy. What an examination of the air of those rooms would show one can surmise, as the floors were uncarpeted, and the dried sputum ground by the feet would be floated into the air. The father died in a short time; the brother and son, when last seen, were well advanced in the disease. Tuberculosis had not occurred before in this family.

In another family, two sisters occupying the same room became affected, one soon after the other, the parents, grandparents and other members of the family being free from tuberculosis and of good health.

Where a tuberculous parent gives birth to a child which afterwards becomes tuberculous, this may be explained by assuming that a certain weakened disposition of the tissues was inherited, which would, under unfavorable circumstances, give rise to the development of tubercle. This modified heredity is always through the mother, probably through the placenta. In the management of these cases, when possible, I put the patients in separate rooms having plenty of light and air, and provide receptacles to receive the sputum or cloths for the same purpose that can be burned.

Warm, but not heavy, clothing should be insisted upon. I do not approve of the chamois vest, often worn without our consent, but prefer woolen goods. The diet should be simple, yet nourishing. I prefer one in which the albuminous substances largely enter.

Dr. A. H. Smith advocates the rectal feeding of defibrinated blood, and reports the gain of thirty-three pounds during three months in a phthisical patient.

Sanitariums, under strict medical supervision, are beneficial, but the separation from home and its ties in some is depressing; the same may be said of sending patients to a

distant place in search of a suitable climate. For climate to have effect, we should send our patient away before great inroads are made, and not wait until the last stages, as is too often done. We should select a place where the variations of temperature are not great—neither over-humid nor too dry. Other than this, the matter is one of experiment.

The foregoing applies as well to the laryngeal affection as to the pulmonary. In the early stages, during infiltration, there is nothing in the larynx to aid us in forming an opinion, unless it be the marked anæmic appearance of the arytenoids and interarytenoid space. There may be the history of declining health and the general appearance may be more or less blanched. The contrast between the iris and pale conjunctiva causes the eyes to be very bright.

My cases occurred in patients between the ages of thirty-one and forty-four years—a trifle over twice the number of males as females.

Characteristic changes take place in the larynx; there is an infiltration generally of the arytenoid, causing swelling and tumefaction, semi-solid in appearance and varying from a greyish to a yellowish tinge. The arytenoids become club-shaped; the cavity of the larynx encroached on, the swelling preventing free movement of the cords; the voice becomes greatly impaired. If the epiglottis is affected, it becomes thick, œdematous, and is described as being turban shaped. In a short time these swollen tissues show small spots, indicating the breaking down of tubercle and the formation of ulcers. Dysphagia, dyspnœa, great elevation of temperature and pulse rate, hectic and night sweats indicate unfavorable progress.

In four or five of my cases, otitis media added to the suffering; in others, colliquative diarrhœa hastened the end. Pulmonary involvement was present in all of my laryngeal cases.

Malignant growths, lupus, syphilis and perichondritis have been confounded with laryngeal phthisis.

The *diagnosis* is generally easy.

In syphilis, the inflammatory changes are more marked,

the ulcer deeper, with sharply outlined borders; it is a manifestation of the secondary stage appearing between two and seven years after the primary lesion, and due to the breaking down of gumma. The deep ulcer is later and is tertiary.

Lupus in the throat, I have never seen.

In perichondritis, the appearances and symptoms vary with the different laryngeal cartilages affected. Malignant growths are generally unilateral, highly injected, and irregular in form; there is great tissue destruction, often stenosis, and purulent discharge frequently mixed with blood. The microscope will confirm our diagnosis. We may have the mixed infection of syphilis and tubercle, in which the diagnosis is very difficult.

The following case presented February, 1894: Mrs. C., age 32 years, never of robust constitution, in appearance anæmic, about six months previous she had noticed impairment of voice, at the same time a cough, before slight, became more marked. The case had progressed unfavorably. There was loss of flesh, increased debility, dysphagia, hectic and aphonia, copious expectoration of purulent matter and dyspnœa, irregular menstruation, which last finally ceased. A diagnosis of laryngeal and pulmonary phthisis was made; unfortunately, the microscope was not used, as I considered the symptoms presented ample. The clinical history was perfect, the appearance of the larynx characteristic. There were the swollen and club-shaped arytenoids, the turbaned epiglottis, and on the left arytenoid was an ulcer pale in color and not very deep. The temperature varied in the neighborhood of 102°, pulse 130, respiration 28 or 30; night-sweats had become quite exhausting. Examination of the chest revealed an area of decided dullness in the upper left lobe. Whether the laryngeal affection was primary or secondary I cannot say; in the majority of cases it is secondary. An unfavorable prognosis was given. She was placed upon sodium hypophosphite and pepsin, also given creasote. A great many conditions arose, and were treated symptomatically, at times sponging with alcohol, quinine, atropia or pilocarpin for sweats, and stimulants, with general instructions as to diet and exercise when possible. The laryngeal ulcer was at first painted every second or third day with a 10 per cent. solution of lactic acid; this being badly

borne, a 20 per cent. solution of menthol in olive oil was substituted.

From this time, the case improved; the dysphagia ceased, gradually the swelling lessened, the ulcer healed, the voice and appetite returned, hectic disappeared, the pulse fell to 96, the temperature to 99$\frac{1}{5}$°, and the respiration to 20. Her weight has increased. There is still an area of dullness in the chest, but no inconvenience is felt, and with the exception of a very slight cough at intervals she considers herself entirely well. Local treatment has been stopped, but the creasote and soda are still being taken.

1417 *N Street, N. W.*

Buffalo Lithia Springs—New Pamphlet.

Col. Thomas F. Goode, Proprietor, etc., has just issued a new descriptive pamphlet of 40 neatly printed pages, setting forth the chief of the many values of the Buffalo Lithia Waters. It is wonderful with what striking unanimity so many eminent men in the profession testify to the therapeutic virtues of these waters. A copy of this pamphlet of information will be cheerfully sent any person on request made of Col. Thomas F. Goode, Lithia Springs, Mecklenburg Co., Va.

The Hot Springs Medical Journal,

So well edited recently, by Dr. T. M. Baird, is hereafter to be editorially conducted by Dr. James T. Jelks, Ex-President of Arkansas Medical Society, Professor of Gynæcology and Syphilology in Barnes Medical College, St. Louis, etc. The *Journal* is in good hands.

Elixir Six Iodides, Elixir Six Bromides, Hypophosphites and Elixir Six Aperiens (Walker-Green's)

Have been made uniform in price, viz., $8.00 per dozen. These elixirs are rapidly gaining the confidence of the profession. The latest circular can be obtained upon request.

Mortician.

During the Funeral Directors' Association of Kentucky, in Louisville, it was decided that the term "undertaker and embalmer" be no longer applied to their calling, but, in the future, the term "*Mortician*" be used as applied to their profession.

ART. VI.—The Outlines of a New and Important Treatment for the Morphine Habit, Based on a Clinical Study of One Hundred and Fifty Cases Treated at Sunnyside, Private Hospital for Mental and Nervous Diseases.

By EDWARD C. MANN, M. D., F. S. S. (London), of New York, N. Y.

MEMBER BROOKLYN PATHOLOGICAL SOCIETY; HONORARY MEMBER SCIENTIFIC SECTION, IMPERIAL UNIVERSITY, KHARKEFF, RUSSIA; MEMBER MEDICAL SOCIETY COUNTY OF NEW YORK, ETC., ETC.

The bad effects of morphine injections, in producing the morphia habit in those who belong to the neurotic circle of society, were probably never more apparent than to-day. It is becoming more and more important for the medical profession to deny morphine to those who have this neuropathic constitution, except in those extreme cases where suffering is extreme and can be assuaged in no other way.

From an analysis of one hundred and fifty cases treated at our private hospital, we regard the morphine habit as a curable affection, and also curable without pain or suffering to the patient, the latter in many instances not being able to tell when the drug is discontinued. Primarily, to cure our patient, we must control him or her in a proper environment. The morphia habit simply cannot be cured at home. Many a patient who pretends to the family physician to be cured, keeps up his or her use of the drug in secret. It is very easy to produce the morphia habit, and very difficult, if not absolutely impossible, for the patient to conquer it when it is once produced. The most efficacious of all remedies is the private hospital, where, if the physician has had due experience in the treatment of the morphia habit, and has benefitted by his experience, the patient can be cured in about six weeks without pain and suffering.

To cure these patients, they must have an environment of mental quietude and an atmosphere of tranquility, where the patient is free from all care and all excitement, and where he is kept under the strictest surveillance. These cases, more than any other, perhaps, call forth all the skill of the physician. The diet must be tonic and nutritious, and must be based on food values. There is insomnia to

be combatted and general nervous excitement to be quieted. All the usual painful effects of the suppression of morphia must be saved to the patient. The patient need not suffer at all, if properly treated. Neither should he be allowed to suffer from digestive disturbances, insomnia, or prostration. The nerve tone must be improved from the very commencement of treatment, and not delayed until the stage of convalescence. It should be distinctly understood that there is no patient suffering from the morphine habit who has a will power strong enough to resist taking morphia if he or she has the opportunity; therefore, every patient must have a special nurse, who shall be with the patient night and day until cured.

A morphine habituate not unfrequently dies suddenly, if at home, from cessation of the heart's action. And we come now to the important points in treatment hinted at in the title of our paper.

Most patients who apply for treatment have already fallen into a decline, and the system has become weakened and undermined by the use of morphine. They come because they sincerely desire to be cured, and we have found them generally anxious to co-operate with us in our endeavor for their cure. The functions of nutrition are profoundly affected; the respiration is disordered; dyspnœa is frequent; the circulation becomes weak and the pulse feeble; the sexual passions are weakened; there is glycosuria and albuminuria; there is a special form of delirium tremens which I term the opium delirium tremens, in those who, unassisted, try to suppress the morphia without treatment, and also hallucinations of sight; there is diplopia and defective accommodation when there is an absence of the morphia. Morphine soon becomes, to one who has fallen into the habitual use of it, indispensable to his existence, and so modifies and changes all of the functions of the structures of the body that its continued use becomes a necessity.

There are just two things for the morphine habituate to do—first, to apply for treatment and be cured; second, to

continue the use of it and die, either from the poison or fall into a decline and a progressive cachexia, until some incidental disease, perhaps slight, carries the patient off. A very few patients may escape and live to an old age, but they live with impaired health and strength.

The diagnostic marks of the morphine habit are the expressionless face, the dull eye, the aged appearance, the yellow and earthy tint of the skin, and the premature wrinkles. There is constipation; there is dysuria; the pulse is intermittent; there is loss of appetite and there is dyspnœa, and there are wakeful nights. There is also depression of spirits, which may amount to a melancholia. The morphine habituate's first experience is the feeling of general well-being and satisfaction after each injection or puncture. His last experience is the terrible suffering which he or she undergoes when without the customary allowance of morphia, when all serious work or thought is impossible without it to impart an artificial and temporary health.

In the treatment and cure of this disease, we have existing gastric and hepatic disturbances to treat and relieve, and we have to get up a proper elimination of excretory products through the kidneys. We have also to induce in the heart's action a condition of regularity in rhythm and frequency. We have to properly tone and increase the nutritive condition and working capacity of an enfeebled or irregular heart, and perhaps there is nothing more important in the whole treatment of the morphine habit than to do this successfully.

There are many remedies that have their appropriate therapeutic sphere here that are familiar to the profession. We must, if we are to cure our patient, increase the force and frequency of the muscular contraction, lengthen the systole, and nourish the heart muscle tissue, or our patient will drop back to the use of morphine again to regulate his heart. If, in the treatment of a case of morphine habit, we neglect to establish a regular, rhythmical action of the heart, and a uniform tonicity of the vascular system, and do not place the heart in the best possible condition toward

performing its mechanical function effectively and maintain an equivalent nutritive activity, we shall not cure that case. A relapse will be inevitable, and therefore it is that at our private hospital we pay especial attention to the irregular, weak heart's action of the morphine habituate, with its diminished tone and nutrition, and the very few relapses which have occurred demonstrate the beneficial results of this plan of treatment.

We employ a plan of treatment by which it is impossible for the patient to tell when he ceases to take morphia, and we insist upon a proteid diet, which gives the most energy and force to our patient with the least expenditure of oxygen to digest and assimilate it. We use electricity in all its forms to strengthen the functions of the structures of the body. We use the glycero acid phosphate, first made known to the medical profession July 28th, 1894 (*Journal Amer. Med. Assn.*), as a nerve food. In combatting insomnia, we use milk in large quantity at night, or trional; also the prolonged warm bath, with cold to the head. As a sedative, we use valerianate of zinc, combined with extract belladonna. As a reconstructive and stimulant tonic, we use the glyceride of the hypophosphites, with iron, quinia (alkaloid) and strychnia, which is richer in the hypophosphites than any we have been able to obtain, and which causes repair to exceed waste in the nervous system very rapidly. This preparation was presented to the profession through the *Journal Amer. Med. Assn.*, December 1st, 1894.

We also use and like the maltine and coca wine; fluid extract of coca we also use. Centric galvanization and general faradization we cannot praise too highly. In short, we employ all therapeutic measures which operate in getting the centric nervous system to the highest resisting point; and the last caution we give our patient, when he leaves restored to health, is, never to permit any one to administer to him or her, as the case may be, another injection of morphia as long as the patient lives, and, if necessary, to suffer pain rather than again fall into the toils of morphia addiction.

305 *West 86th St.*

Art. VII.—The Abuse of Athletics.

By W. E. ANTHONY, M. D., Providence, R. I.,

Ex-Secretary Rhode Island Medical Society.

Proper exercise of the muscles gives force and vigor to the mental faculties, when the one balances the other, and harmony of action exists in the system, and we have a sound mind in a sound body. If the intellectual faculties are worked to an over development, the physical forces will succumb. The brain, when exercised to its utmost, demands a requisite amount of nourishment to supply the waste of nerve force, and that supply must come from the blood. If mental work is carried beyond its natural limit, the body suffers, and, from the effect upon the body, the brain is in turn affected. The mind cannot ignore its dependence upon the body, which must be simultaneously developed, in order to produce the best results.

The mind is an instrument capable of many high and exalted notes, none of which we desire to lose. When the tension is over-strained, there snaps string after string, or the whole may fail at once—a shattered instrument, never to be repaired or used again.

Exercise recommends itself to us at every period of our existence, from the beginning to the end. The infant, lying in his mother's lap, kicking with his legs and striking out with his arms, is taking his first lesson in the exercise of those muscles which will be called into play in after years, when he may be the stroke oar of Harvard's boat crew, the center rush of Yale's foot-ball eleven, or the pitcher of Princeton's base-ball nine.

If a man exercises his brain too much and his muscles too much at the same time, a collapse must ensue. Nervous force is expended by the muscular act and the intellectual act. The whole art of education should be embodied in the maxim, "*mens sana in corpore sana.*"

The difference between the comparative values of bodily exercise and habitual inactivity is, that the former promotes

life without hurrying it, while the latter hurries life without promoting it. The body possesses functional powers which, barring accidents, will last a given time, dependent upon those powers.

In order to be healthy and free from the insiduous chances of organic disease, one must live temperately. If exercise is made subservient to grossness of living, the body will suffer from premature exhaustion. Exercise should be the helping hand held out to assist and enliven the daily functions. The exercise of the bodily functions is necessary to existence. Every organ, according to its intended use, must have its appropriate exercise.

Certain pathological conditions, the result of undue or injudicious exercise, are known under the terms of *athletic lung*, *athletic heart*, *bicycle back*. The first is produced by such kinds of exercise as calls for the continued use of the lungs at their greatest expansion; the result is an excessive development of lung capacity. Such men, on giving up active athletics and following a trade or profession that is sedentary in its nature, are peculiarly subject to pulmonary diseases. The enormously developed lung capacity is only used in part, and the unused cells form convenient lodging places for the micro-organisms of tuberculosis.

The *athletic heart* is most often seen in athletes who have trained for aquatic sports. The heart is a hollow muscle, and may be over-developed the same as other muscles. As the result of over-development, enlargement and valvular insufficiency may arise.

Bicycle back occurs in riders who have become habituated to leaning forward on their machines, especially those who do much hill-climbing. A prominent London physician wrote, some years ago, regarding a condition analagous to the athletic ring: "A form of over-distension of the pulmonary air-cells is very common among the coal-whippers of the London docks. These men eat sparingly of animal food, and drink largely of porter. When they raise the coal from the hold of the ship, they fill their lungs by a

forced, deep inspiration, grasp the rope, and leap from the step to the deck, and then suddenly expel the air from their over-inflated lungs. This action breaks down mechanically the delicate pulmonary areole, just as we would burst a thin paper bag by forcing a column of air into it. When undue force is thus brought to bear upon the areas of the pulmonary cells, and that force is not met with an equal antagonistic resistance from within, the cells must necessarily break down." A continued action of this kind would eventually result in a dilatation of the right side of the heart. Mechanical assistance to the lungs against the effects of the inspiratory force, created by great or continuous effort, is doubtless given in the "heave-ho" of sailors, and the expiratory "ugh" of street-pavers and wood-choppers.

Pugilists, who have submitted to periods of training, which are followed by times of inactivity, are often subject to pulmonary disease. John C. Heenan and Joe Coburn, both noted pugilists, died of consumption at a comparatively early age.

A few years ago, the *Pall Mall Budget* had a classified list of accidents consequent upon rough play at foot-ball in England. Of fifty cases, reported within the six months previous, seventeen had resulted in death, a considerable portion of the fatalities being due to rupture of the liver, spleen or intestines. Rupture of the kidneys was assigned as the cause of death in a case reported in the *London Lancet*. This last rare form of accident occurred at a game of foot-ball at Birmingham. The player at first appeared to be only slightly injured, but within a few hours fell into a state of collapse, and died within twenty-four hours after the accident. In my own experience, I have seen a death result from rupture of a muscle, causing a psoas abscess, the accident occurring during a game of ball, and death resulting some days after.

The accidents occurring during play are not, as a general thing, as important as the after-effects may be, if care

is not taken to avert them. Dislocated fingers, barked shins, and bruised bodies soon heal. It is *the effect of the rigid training which athletes undergo that undermines the system* and brings in its train results which may extend through months or years.

Violent muscular or excessive mental exercise demands a sufficient quantity of blood, and the richest kind of blood. The quality of the blood depends upon the nutriment taken.

In order to reduce the weight, or to keep it at a certain standard, rigid rules of diet are enforced. The effect of such training is often seen in later years in nervous prostration or mal-assimilation.

This article is not intended as a protest against athletic sports and exercises, but as a note of warning against the danger incurred when athletics are carried to excess.

All gymnasiums should have a medical director (many of them do) who should examine each member and prescribe the proper exercise. The training of boat crews and ball teams should also be done under medical supervision. In gymnasiums, the amount of exercise should be adapted to each individual case.

The use of all exercise, whether continuous and sustained, or slow, gradual, and at intervals, is to impart strength to the muscular system, and to give tone and invigoration to all the bodily functions; but do not carry it to excess, lest there may be repeated the old Italian epitaph: "I was well; I sought to be better. Here I am."

The Convention of Bacteriologists,

Held in New York, June 21 and 22, was the first congress devoted to bacteriology alone ever held in any country, and was a great success. More than fifty bacteriologists from Canada and the United States attended. Papers of special value were read and discussed by a number of those in attendance.

Art. VIII.—Saw Palmetto and Fluid Extract of Pichi in the Treatment of Membrano-Spasmodic Stricture of the Urethra.

By L. A. RUTHERFORD, A. M., M. D., of Lagrange, N. C.

Of many cases of spasmodic stricture of the urethra, with membranous complications, successfully treated without the use of bougies or other mechanical appliances, we give from our case book the following:

D. A., aged 30, of marked bilious diathesis, presented himself for treatment in the early part of March. He complained of a stricture of eight years' standing, doubtless the result of cauterization for gonorrhœa. He had presented himself to numerous surgeons of reputed ability, who had been about equally divided in the diagnosis between spasmodic and structural or permanent stricture. One aspiring genius had attempted dilatation by forcible and painful use of the bougie, which operation was followed by weeks of painful micturition and a still further diminution of the calibre of the urethra. Whenever his urine became acrid from excess of urates or stimulating foods or drinks, he found it almost impossible to void it, and required nearly ten minutes to accomplish a single evacuation of the bladder.

On one occasion, after a thorough use of non-irritating cathartic pills, he had been able to make a stream full and free for a day or two, after which the former strictured condition again obtained. We found great tenderness, irritation and induration of the prostate gland, and perineal pain reflected from the seat of stricture. An attempt to pass a No. 3 or 4 bougie proved perfectly abortive, nor would the stricture yield to persistent pressure against the resisting tissues. The bougie passed freely and painlessly along the urethra until the membranous portion was reached, when, with a painful spasm, its further progress was instantly and effectually stayed.

A brief course of tentative treatment corroborated our diagnosis, and we immediately proceeded to treat him as follows: A narrow strip of irritating plaster was held in contact with the shaven surface over the prostate by means of a neatly adjusted perineal bandage. Fresh plaster was applied from time to time until pustulation and suppuration followed its application. Compound podophyllin pills were given short of catharsis until there was visible im-

provement in the physical and chemical condition of the urine, after which we put him on the elixir of saw palmetto and pichi compound (Virginia Pharmacal Co.'s preparation). Also this prescription:

℞—Saturated tinct. of stillingia... ʒij
Fl. ext. digitalis..... ʒj
Tinct. apis melifica ..... ʒss
Simple syrup q. s ..... ℥ij

M.—S. One-half a teaspoonful every six hours during the day.

Under this treatment, the improvement was marked, and in two weeks a No. 4 bougie could be readily and painlessly passed, and at the close of the third week there was no appreciable impediment to the passage of the urine.

You will thus see the very simple course of treatment followed. Try it.

Bulletin of the American Medical Publishers' Association, New York,

The first number, issued July, is a great help to medical journalists. It is well edited by Drs. P. H. Fairchild, Ferdinand King, Mr. J. McDonald, Jr., of New York City, Mr. Chas. Wood Fassett, of St. Joseph, Mo., Dr. J. C. LeGrand, of Anniston, Ala.—the editorial staff elected during the recent session of the Association in Baltimore. We but voice the opinion of the Association in saying that the work is admirably done. Quoting from the editorial: "We have already enlisted in the Association a very reasonable percentage of the journals of this country, and it is confidently hoped, through the instrumentality of this monthly *Bulletin*, the remainder may be drawn into the fold." Sixty-eight journals are already members, and we are informed by the excellent Secretary, Mr. Chas. Wood Fassett, of the *Medical Herald*, of St. Joseph, Mo., that the list is being constantly added to. A prominent feature of the *Bulletin* is the report on advertisers, a key being furnished only to members of the Association.

The American Pubiic Health Association

Will meet in Denver, Colorado, October 1–4. It is the twenty-third annual meeting.

Art. IX.—A Plea for a More Detailed Study of the Central Nervous System.

By RUSSELL PEMBERTON. M. A., B. S., M. D., of Germantown, Pa.

Owing largely to the accurate and careful work of Ferrier, and of a few of his associates, the scientific world first began to appreciate the real function of the brain, and became interested in the practical bearing of this organ on human physiology. Since that time the process of cerebral localization has been extended to the diagnosis of lesions, not only in the cortex, but also in the basal ganglia and in the tracts of fibres by which the central nervous system is put into communication with the muscles and the organs of sensation, particularly at the points nearest the superficial origin of the cranial nerves and in the pyramidal tract. But in our enthusiasm over the development of this comparatively new branch of pathology, we are going too fast, and too much along the beaten track. We do not study the brain comprehensively. There is too much contentment in diagnosing the lesions within the tracts best known, disregarding almost completely the larger mass of the brain, particularly the bundles in the corona radiata and the commissural fibres.

To one who has attended neurological lectures in one of New York's largest clinics, the case is quite clear, and the want of detailed knowledge more keenly felt. There the learned professor holds forth to a large and admiring audience of younger practitioners and medical students, and each clinical case, as it enters, is thoroughly tested, and by diagramatic representation the exact site of the lesion is shown. This seems wonderful, and applause is quite in order. The patient gives, say, the symptoms of monocular (left) blindness of the left half of the field of vision, and also suffers from aphasia. Consequently, the lesion—a clot, or embolus, or tumor, or other pathological condition—must exist in that portion of the left crus which is in closest juxtaposition to the optic tract winding around it. And from this diagnosis there is no appeal; indeed, the whole matter

is so definitely settled that there is no further room for thought of other possibilities. And so far, so good. But the abrupt termination is unwise, as discouraging further inquiry. How about the course of the optic tract fibres through and between the geniculate bodies to the pulvinar of the thalamus, and through that put into communication with the whole coronal system? How about the fibres that pass to the corpora quadrigemina, and are there connected with almost all of the cranial nuclei? The points of crossing and communication of fibres relating to speech, and of those concerned in sight, are simply innumerable. It is a great mistake—not so much on the professor's part—but on that of his auditors, that they are not better informed on the minute anatomy of the brain.

Remembering that the diagnosis of these conditions is a matter of such recent date, would it not appear safer to take into consideration the relations and inter-relations of the cortical nerve-cells, the functions of the association-fibres and of the projection-fibres? The machinery of communication should be more thoroughly known. Induction is the only reliable scientific method, especially here illustrated by the several instances in which post-mortem examination has distinctly contradicted the diagnosis previously so clear and final. But how can our induction ever approach completeness unless the number of facts discovered be largely increased, and every one coming in contact with such lesions be on the alert for the accumulation of new evidence? The fault seems to lie in the detailed study of those nerve-tracts best known, and studied apparently so often to the exclusion of the higher and more important bundles of projection- and association-fibres. As a rule, the general practitioner has little time or opportunity for the microscopic investigation of the internal cerebral mechanism, and can therefore hardly appreciate its great complexity; and the matter devolves on the specialist, who is often slow to realize how much progress has been made along this line in comparative morphology, and how far beyond the present state of medical knowledge extends the investi-

gation of the central nervous system in the lower animals. Unfortunately, the medical faculty is somewhat slow in applying to its own use cognate facts of the liberal sciences.

As these lesions in the base of the brain are difficult of access, or, at present, a *noli me tangere* of operative work, the matter may not seem so important. But when we are required to face the recent boldness of surgery, and remember the several successful removals of the Gasserian ganglion, the subject becomes vital indeed, and is one which may finally concern the reputation and good name of the profession at large. Aside from all that, our becoming more familiar with the central nervous system is a scientific duty. The brain should no longer be studied as a mere viscus of curious and strange construction; its parts taken up piecemeal, and their shape and size remembered; but, as a homogeneous entity, knowledge of decussations and communications being brought to a state of greater completeness, and more carefully systematized.

Of the diagnosis of cortical lesions no criticism is here intended. These are on the surface, are simpler, and, moreover, come more directly within the province of surgery. Because of their comparative simplicity, and the thoroughness with which the localization of cerebral *centres* has been analyzed, their diagnosis is more satisfactory; the instances few, in which trephining cannot be done with a reasonable hope of laying bare the pathological process. Perhaps, too, their surgical bearing has some concern in this. Surgery deals with plain, hard facts, and has little regard for theorizing; the genius of the science is that of skilled mechanism, and whatever it touches assumes a scientific aspect. It is only with the theorizers in basal cerebral localization that I take issue, and much could be done to controvert the dogmatism, perfunctoriness and superficiality of the reasoning of the day if the profession at large evinced more interest in the progress of neurology, and the specialists endeavored to utilize, upon a basis of comparative anatomy, the later discoveries in the central nervous system of the vertebrates.

125 *School Lane.*

Art. X.—Cholera Infantum.*

By EDGAR W. ROBERTSON, M. D., of Onancock, Va.

Flint, DaCosta, and Gould make cholera infantum synonymous with *summer disease.* J. Lewis Smith, Dey, and Eustace Smith give it a special classification of cholera infantum, or choleraic diarrhœa.

I will adopt the title of cholera infantum, or summer disease, and will not confine my remarks to any local expression of the disease, but include any one or all of Flint's exhaustive definitions, as follows: "Under the head of cholera infantum, then, are commonly embraced cases of sporadic cholera, diarrhœa from indigestion, enteritis, coloenteritis, and dysentery," with Flint's "hydrencephaloid condition," Eustace Smith's "spurious hydrocephalus," and J. Lewis Smith's "spurious meningitis," for the head symptoms.

Here is an authoritative schedule from such authorities as Flint, Dey, Eustace Smith, and DaCosta, of *causes of this disease* (an epitome): Elevation of temperature, teething, bad air, impure milk, or dietary errors, and a milk ptomaine.

The following case is a *typical form* of the *entero-colitis variety, without* well-established head symptoms (except convulsion on first day seen):

George S., aged sixteen months.—*May* 24, 1894.—Six or seven operations to-day; greenish, bronzed, with mucus and tinged with blood. Temperature, 104.50°. Bowels irrigated; warm bath; quinine and castor oil; deodor. tinct. opii and cinnamon water. The irrigation passed out, smelling like rotten crabs. Used oil every four hours, alternately, with following:

℞ Arom. chalk powder..... ..... grs. xxiv
Bismuth subnit... .... ʒj
Pow'd cinnamon. .... grs. viij
M. Make eight powders. S. One every four hours.

The addition of the powdered cinnamon was perhaps superfluous; already some was in the aromatic chalk powder.

Two grains of quinine were also given night and morn-

* Read before the Eastern Shore (Va.) Society, June 18th, 1895.

ing; hydrate chloral, grs. viij, and Peacock's bromides, ʒij; half teaspoonful every two hours for convulsions. (My impression is I was anticipating them from his delirious manner, looking up at wall and nervous behavior.) Temperature about 104.30°. Little or no reduction by warm bath.

4 *P. M.*—Recalled to the house. Slight convulsion; pale looking. Inject four grains chloral and Peacock's bromides ʒj by rectum, and continue bromides by mouth *pro re nata.*

10:30 *P. M.*—Has had three operations; last one just passed. All three spinach-like look, with some sandy-colored mucus. Temperature, 101½°. Rational; only one slight emesis, and after taking the oil. Stop oil, and use bismuth and aromatic chalk powder till mid-day to-morrow. Also ordered quinine night and morning, two grains internally, and four grains rubbed under arm-pit night and morning.

May 25th—Mid-day.—Temperature, 99.30°. Haggard look; emesis and bowels somewhat frequent. Irrigated bowels, with corrosive sublimate solution about 1:12000. Wine whey. For emesis, one-drop doses of vin. ipecac

P. M.—Better in all symptoms; only rolls his head, but has taken opiate, and may use that only for three operations—viz.: every three hours. (The opiate is aromatic chalk powder with opium, bismuth and powdered ipecac. Quinine night and morning by epidermic method. Wine whey.)

26th.—Some five or six passages in my absence. Muco-feculent; yellowish. Temperature, 99° to 100°. Eyes sunken. Use aromatic chalk powder (without opiate) ℈iss, bismuth subnitrate ʒj, powdered ipecac one grain. M. Make ten doses. S. One every three hours. And the aromatic chalk, opium, etc., mixture once every four operations in addition. Continue the wine whey. (This I prepare after E. Smith by boiling teacup milk, add wine glass white sherry wine, or a substitute, stirring well for another minute's boiling, taking off fire, strain, sweeten with white sugar, and allow ʒj to ℥j, with cream or without it, and with ice, preferably.)

8:16 *P. M.*—Temperature, 103°. Operations sero-feculent; greenish; great thirst; takes the whey; continue medicine; has had no nausea. Give two grains quinine night and morning (and if not retained, resort to epidermic method). Warm bath at 9 P. M.

27th.—Temperature, 100°. Pupils large; only part of quinine retained. Used then epidermic method. Only

three operations, however, in night, but character not improved. Continue quinine (having syr. yerba santa this morning). Aromatic chalk powder ℈iss, bismuth subnitrate, ʒj, ipecac one grain. Make ten doses. Irrigated bowels; corrosive sublimate about 1:10000. Quinine; warm bath every six hours.

Subsequent Visit.—Quinine in syr. yerba santa. Temperature, 100°; pulse, 120. About four passages; child seems sunken and somewhat drowsy, therefore caution as to opiates. Only $\frac{1}{20}$ grain every four or five passages. Continue wine whey and cream.

P. M.—Temperature, 100°; pulse, 132. Only about five passages, which are not so large. Give rhubarb and soda. Sleeping with eyes open, but took a Dover's powder.

29*th.*—Pulse, 120; temperature, 97°. Several vomiting spells in night, vomiting the whey. Directed withholding everything but ice water *for awhile.* Then gave aromatic spirits of ammonia eight drops every two hours. Continue other medicine.

About 4 *or* 5 *P. M.*—Sleeping quietly; respiration 20 and regular; operations show effects of rhubarb; only two passages in my absence—yellowish and watery. Continue aromatic chalk powder, ipecac, etc., adding five drops tincture catechu to each dose, and half drop carbolic acid. No fever, but thirst and vomiting. Continue wine whey, iced, without cream, and in small quantities, increasing as he can bare. Nurse (or mother) stated that he was "lively, sat in my lap, going for the ice water." Continue Dover's powder *pro re nata* every four passages (none given in my absence). Rely on ice and iced wine whey for nausea. Give as rectal irrigation, boracic acid and carbolic acid in solution. Temperature, 99°.

Saw him on 31st. (Discontinue irrigation for present; think they have done good, however.) Temperature, 98.6°. Bowels no worse, and his look is very good (except he had sunken, emaciated look). Continue same treatment. Aromatic chalk powder, ℈iss; subnitrate bismuth, ʒj; tincture catechu, fifty drops; carbolic acid, five drops; powdered ipecac, one grain. Ten doses.

June 1*st.*—Rested well; no fever; weak; looks wide awake; only two to four operations in my absence; greenish, somewhat thin. Irrigated bowels, with corrosive sublimate 1 to 10000 (about). Mellin's food, about two tablespoonsful, to cup of hot water, and three teaspoonsful condensed milk. For sick stomach (which is a most troublesome symptom),

subnitrate bismuth, carbolic acid, vin. ipecac. Continue other medicines. Quinine retained this morning.

June 2d.—No operations since early morning; nor emesis, and takes condensed milk and Mellin's food, but "something matter with his head." Seems to be rational, but draws up his nose, and shakes his head as though nose itched. One-fourth ʒ dose Peacock's bromides every three hours (relying mainly on this); have his nose frequently bathed with ʒj carbolic acid to cup water, with ʒij bicarb. soda (not having any borate, nor glycerine, nor boracic acid).

By 3d of June, 8:13 *A. M.*—Find him quietly sleeping, sometimes showing sclerotica, but respirations quiet and regular. Pulse, 120. Has had but little rolling of head in my absence; * * * but little of the appearance of nasal pruritus, and only five operations, but offensive. Irrigate with corrosive sublimate; continue bromide, adding carbolic acid and pepsin in food; also whiskey. Seems rather dull. After the irrigation a mucous product passed, thick like jelly.

June 4th.—Irrigate bowels. Only four passages in my absence. Napkin now shown as taken from, which is "thicker," yellow, and looks more favorable. Ravenous appetite, and looks better; tongue moist and furred in places.

5th.—Find him in his mother's lap taking soup. Better, but rather more frequent alvine passages, which are yellow, offensive, mucous and curd-like. Irrigate; continue the bromides, carbolic acid, and pepsin for every taking of nourishment. Direct a dose of the "three-hour medicine" of tincture catechu, etc., for every fourth operation. Sleeps well at nights; left stomach tooth emerging; tongue moist; some fur in places. Continue bromides, minims xv, one-half drop carbolic acid every three hours.

6th.—Irrigated bowels. Bromides, ʒiv; carbolic acid, ten drops, for twenty doses. Better than I have seen him. Takes soup greedily. Continue aromatic chalk powder, ℈j; bismuth subnitrate, ʒj; tincture catechu, ʒss, for seven doses for bowels—one every four operations.

13th.—Yesterday and night before last operations bad, but to-day only two. First one green, spinach-like, and a small, round worm, and second one best I have seen—a golden yellow lax, however.

Sugar, ʒj; powdered rhubarb, ℈j; bicarbonate soda, ℈j; powdered cinnamon, grs. x. Make twelve doses; one twice

daily; pepsin, subnitrate bismuth, and tincture catechu once for four operations.

16*th.*—Convalescence Pepsin and bismuth; pulvis cretæ aromaticus cum opio et bismuth subnitrat. Recovered.

NOTE 1.—*Cases of Summer Disease showing Established Hydrencephalic State are Generally Fatal.*—Generally the hydrocephalic cry is the child's own funeral dirge in prospective. The stare of an eclampsic woman, or the shrill scream of a choleraic child, are noticeable, and noticed by the physician of experienced eye and ear. The following cases exemplify this point:

August 13*th*, 1893.—Called to see Edward W., aged one year. From that date to 15th, watery passages with occasional emesis, with sunken state. First day seen thought by family to be hopeless; sluggish, non-febrile, cool extremities; sunken face. (The case proved to be a *choleraic diarrhœa*, eventuating in entero-colitis.) On evening of 15th rolls his head; refused wine whey; quiet, but soon the cry begins—"hydrocephalic cry"—shrill. Pupils good size.

25*th, after* 2 *P. M.*—Moribund; comatose; pulseless (radial). Temperature, 105.2° Quickened respiration; getting shallow. Expired shortly afterwards.

1894, *July* 9*th.*—Neal R , aged two months and five days. Taken with spinach-like passages, which, by 10th, had become a watery diarrhœa, and by 15th right eye droop. Recalled August 2d; bordering on cholera infantum from the shrunken look.

3*d August.*—Hydrocephalic cry. Temperature, 102°; frequent operations.

4*th.*—Two convulsions.

7*th.*—Partial spasms of neck, etc.; pulseless. Expired 9 P. M.

1892, 16*th July.*—F. A. W.'s three-month's baby girl. Next day better. Dismissed case.

20*th.*—Dull, but awake.

August 3*d* (*Evening*).—Very frail, pale; rolls her head, but wide awake, and five or six operations to-day. Takes wine whey and liquor pepsin; bowels worse; direct condensed milk and Mellin's food, alternately, with wine whey, and one-fourth drop compound tincture ipecac every six operations, and the chalk mixture, pepsin, bismuth, every three operations.

About 12:30 *P. M.*—No emesis, and only one more passage.

7:20.—Cries out; eight or nine operations in my absence; pulseless and head hot. Temperature, 102.7°; cold rags to head; dry mustard frictions to extremities; aromatic spirits ammonia, five drops in wine whey every hour; stop compound tincture ipecac (only taken one-half drop, two of one-fourth drop); eyes and mouth open. She expired that night.

June 4th, 1888.—Robert M., aged about seven months. Dentition, bronchitis, and enteritis.

July 20th.—Jactitation last night—from cephalalgia, (?) as thought. Temperature, 98.4°; only one passage at night, again day, and one since; some blood in last, but otherwise they are improving—"thickening" up more than ever. Continue lactopeptine and sulpho-carbolate zinc At bedtime, syrup rhubarb and bromide potash. Diet, Mellin's food, "boiled hour," and milk.

23d, 8:16 *A. M.*—Febrile in night; restless, belly swelled; only two small actions; no emesis.

About 11 *A. M.*—Strabismus, convulsions. Yesterday "lay on pillow and whine." He is cold and nearly moribund.

Mrs. M. says: "Last night he'd sleep for a few minutes, and then he'd turn over and scream," etc.

About 2:45 *P. M.*—Learned he was dead.

NOTE 2.—*Rarely Lose a Case of Bowel Inflammation in Children Over Three Years of Age.*—The following two cases, in sisters, taken just alike, it is thought, the younger dying, the older getting well, in desperate circumstances of symptoms, ought to prove something:

Margaret Sucan C.; taken October 12th, 1893, with severe dysenteric symptoms; expired October 22d, 1893. Her sister, Bessie C., I prescribed for the day her sister lay dying—taken with about same violent dysenteric symptoms, with anorexia, no tendency to coma, but asthenia (the anonexia and asthenic symptoms very prominent in second case).

About 5th November I made this prognosis: I am inclined to think death imminent, and use opiates more cautiously than ever, though pupils large, and her mode of dying will likely be by asthenia.

November 6th.—Craving "pickled cucumber" (refusing for greater time nearly every other form of diet, except to tolerate liquid peptonoids). I allowed her to suck pickles, and gave her aromatic sulphuric acid as "lemonade" (which latter, I believe also, she was inclined to).

About 8th.—Asked for eggs, which was allowed; and 9th found her eating buttered biscuit and "duck." Continued powders conditionally. These were: Pulvis cretæ aromaticus cum opio et bismuth subnitrat. Better.

10th November—About 3 *P. M.*—Five passages to-day; seem to be a mucous-enteritis, showing thin, dark fecal stain and mucus. Pulse, 120; good size. Temperature, 98.9° (highest yet). Still, it is probably a reaction from prolonged collapsed state. Almost a boulimia now against former anorexia, Eaten "beef, mutton, soup, bread and milk."

December 2d—Discharged this case, directing castor oil once a day; pepsin and bismuth three times a day.

NOTE 3.—*I believe the idea expressed that astringents, while in febrile condition, are contra-indicated, is orthodox doctrine.*

NOTE 4.—Circumspect in use of opiates in these cases, especially where there is a tendency to somnolency.

NOTE 5.—Diffusible stimulants; arterial stimulants; and support indicated for the pallor; collapse, attending hydrencephaloid condition. And this seems to be the opinion of Eustace Smith, p 639.

NOTE 6.—I have adopted and advocated the authoritative opinion that condensed milk is best form of milk in hot weather, so far as being less apt to disagree with stomach, but don't know that reason proves to me the other wing of the proposition—namely, that fresh cow's milk, in cooler weather, is calculated to give a better stamina to a child. But unless Gail-Borden use glucose in his preserved milk, I see no reason why a reliable condensed (preserved) milk should not answer the requirements of a good metabolism, as fresh cow's milk. Why not?

My proportion of condensed milk is "teaspoonful to six tablespoonfuls water," as intimated in "*The Annual of the Universal Medical Sciences,*' vol. iv, page 258. In other words, a 4 per cent. solution.

NOTE 7.—Showing lower part of sclerotic membrane while asleep, (or in coma vigil) a bad sign, in my experience. What's the rationale of this? *Gray's Anatomy*, page 245, shows that the eye-ball, being moved at any angle, is done so by the recti muscles, which are under influence of 3d and 6th nerves. Why should the superior rectus show su-

perior action, as shown by its contraction (tonic, almost), and the taking upwards and backwards the eye-ball, showing large, and of sclerotic membrane below the cornea?

NOTE 8.—Rise of temperature—hyperheat—almost certain index of impending death.

NOTE 9.—I use in my practice, and with confidence, Mellin's Food, Reed Carnrick's Soluble Food, Flour Ball, White Wine Whey, Alcoholics, Liquid Peptonoids with or without wine of coca; and especially mother's or breast milk (provided she's not carrying another child, nor colostrum (found by microscope late in milk.)

NOTE 10.—The following remedies I adopt in my practice: Rectal irrigations with hot water, carbolized hot water, mercurialized hot water (1 to 8,000 or 12,000), borated hot water, as well as bicarbonate and salicylate sodium. As anti-emetics, one-drop doses of wine ipecac; also, creasote, gum arabic water in catarrhal (gastric) cases. I use now chalk powder and subnitrate bismuth, chalk mixture, salicylate bismuth, arom. powder of chalk with opium and bismuth sub-nitrate, powdered rhubarb, bicarbonate soda and cinnamon, castor-oil, starch and laudanum injections (sometimes following the irrigations), bromides, syrup rhubarb, syrup rhubarb and bicarbonate soda, lactopep. 3 grs. sulphocarbolate zinc, 1 gr. for each powder, in white of egg, vin. ipecac, 1 drop elix. peptemzyne ʒss ar. syr. rhub. ʒss, (latter prescription for nausea and diarrhœa in teething.)

NOTE 11.—Of some twenty-five cases here collected, which either recovered or died, the shortest period was four days, and longest forty-four days—the average 22$\frac{14}{22}$ days. This is merely an approximation, as often several days' sickness before, and after attendance.

Dr. T. O. Summers

Moves from New York to assume editorial charge of the *St. Louis Clinique.* Few of the profession have established a higher name as one of studious turn and gifted with his pen. We may confidently expect the good journal to be made better by his connection with it.

Clinical Reports.

Clinical Report of Some Cases of Cross-Country Surgical Practice.

By JOSEPH N. BARNEY, Jr., A. B., M. D., Woodstock, Va.

CASE I.—*Laparotomy for Intussusception.*—F., aged 8, white, was seen on the morning of November 27, '93. Had been treated by another physician for several days. Peritonitis evidently beginning. Tympanites; anxious facies; no bowel movement for four days; pulse, 130; temperature, 102°. At 4 P. M., same day, Drs. D. D. Carter and Dr. A. P. Belew saw case in consultation. Sausage-shaped tumor in right iliac fossa, soft and movable. With the prospect of grave prognosis, we recommended operation. At 4.45, under strict asepsis, laparotomy was made. Three-inch incision in linea alba; bowels much distended, injected, and partially paralyzed. Small hypodermic needle was used to relieve distension. Intussusception was found at juncture of cæcum and ilium. Reduced by manipulation. Passage of wind and small amount of fæces. Time of operation 20 minutes. Put patient to bed; rallied well with use of hot water bottles, whiskey, etc. Stimulation was kept up, and digitalis and strychnine administered. Patient grew weaker, however, and died at 11 A. M. No autopsy was obtained.

CASE II.—*Large Abscess of Hip—Drainage—Ultimate Death.* E. S., white, aged 55, was first seen July 19, '93. Several sinuses leading down upon anterior aspect of thigh and upon abdominal muscles. They were slit up and found to lead to point in groin where he had an abscess of four months' standing. Syphilitic history. Patient living 12 miles over the mountains, was not seen until the fall, except at long intervals. Summoned December 15th; found large accumulation in region of hip joint; partial paralysis of anterior posterior tibial nerves; varicose ulcers; incision and evacuation of over half gallon of pus. On December 28th, a counter opening was made for drainage, and the wound and cavity thoroughly explored under ether. The cavity was simply the space between the muscle walls; dissected by the pus, and leading upward under Poupart's ligament; irrigation with hydrogen peroxide. Patient improved very much up to January 18, '94, when last visit was

paid; after that date passed from under my care, and finally died in August, 1894.

CASE III.—*Acute Traumatic Tetanus—Chopart's Operation—Death.*—Nettie D., white, aged 12, was seen early (6 A. M), July 15, 1895. Had pierced sole of foot with splinter four days before; no pain, and only drop or two of pus. When seen had rigidity of masseters, pain in neck, and nervous twitchings; wound apparently perfectly healed. Chloral and bromide soda, 10 grains each, every two hours. At 12, was seized with tetanic convulsions, and when seen at 4.45 same evening, they were almost continuous. At 6, Chopart's amputation was done with aid of Dr. D. D. Carter. Operation was complete in 15 minutes. Wound seat healed; venous stasis. Patient reacted well. Spasms returned promptly, and at 7.30, July 16, the case terminated by laryngeal spasm. *No autopsy.*

CASE IV.—*Large Wound of Scalp.*—K., white, aged 15, while "skylarking" over a stable about midnight, August 1, '93, fell 14 feet upon a horse in stall below, and from thence to ground, the horse kicking him several times, and finally only desisting because he was out of reach. Found patient unconscious seven hours later; scalp, back of a line drawn from tip of one auricle to the other, was torn off and hanging down upon neck, wound filled with manure, straw, hair, etc. Washed thoroughly with warm water, irrigated with bichloride 1:2,000; put in 16 stitches, and ten days later removed same. No pus, pain, or fever.

CASE V.—*Acute Glaucoma—Iridectomy.*—Mrs. L. W., aged —, was seen June 5, 1894. Increased tension, conjunctival congestion, loss of vision in left eye. Had been suffering for several days, and had been treated with morphine principally. Eserine sulph. (gr. ij—℥j water) was prescribed. Pain was lessened, but condition remaining practically unchanged on 7th, iridectomy was advised. Done that evening under cocaine anæsthesia. Pain much relieved, but despite the continued use of eserine in the other eye, four days later glaucoma developed in the right eye. Operative procedure was declined by patient until July 28, when another iridectomy was done, simply to relieve pain, the right eye being totally blind. Present condition left eye $V=\frac{17}{20}$, right eye $V=\frac{4}{0}$.

CASE VI.—*Acute Glaucoma—Eserine.*—Frank G., white, aged 21, seen March 26, '95. Acute glaucoma, 24 hours' standing. Sulph. eserine (gr. ij—℥i water) every two hours, few drops into eye. No improvement until 24 hours, when

symptoms began to abate, and by April 5th patient was discharged as cured. No recurrence since.

CASE VII.—*Dislocation of Lachrymal Gland.*—M. T., colored, aged 6, was found on December 23, '93, with the right lachrymal gland out of its usual locality, and filling up the lips of a wound made some minutes before by falling upon the blade point of a large pair of scissors. The glandular structure could be distinctly made out, and several of the ducts were injured. Traction upon the gland caused mucous membrane of upper lid to pucker at upper corner of conjunctiva. Gland was returned, with some trouble, and the external wound closed with sutures. Lachrymation was somewhat interfered with in right eye for several days, but soon became normal, and at present time M. T. cries with no difficulty, as far as the tears are concerned.

CASE VIII.—*Senile Cataract Operation.*—M. T., colored, aged "about 65." Senile cataract. L. perception =0. on August 23, '94, in right eye. Steady progression during the two previous years. Operation August 23, 1894. Cocaine, iridectomy, small amount of iritis. Patient a sufferer for years with facial neuralgia. Present condition $V=\frac{15}{20}$, left eye becoming rapidly blind, with same trouble.

CASES IX.—*Excisions of Tonsils.*

(*a*) J. G., white, aged 6, small for age. Totally confined to house during winters. Anæmic. Very large, soft tonsils excised June 9, and August, 1893. Now large stout boy, able to stand any amount of exposure.

(*b*) B. E., white, aged 11; parents feared consumption; constant hacking cough; voice muffled; dull expression. Small, hard tonsils excised June 9th and May 27th, 1894. Cough has ceased; large increase in weight, and improved expression.

(*c*) Miss M. W., aged 24, white. Hacking cough; bronchitis; unable any longer to sing; voice muffled and indistinct. Hypertrophied tonsils; right tonsil, with tubercular ulcer, May 2, '94. Right tonsil incised with tonsilotome, and then what remained cut away with curved scissors. Some hæmorrhage May 25th. The other tonsil was removed.

Patient writes that she is better than for years. Bronchitis almost entirely abated.

(*d*) J. B., white, aged 16, complains of difficulty in playing his horn in a brass band. Examination reveals very large tonsils. Excised April 13th, 1895. Reports that he can "blow his horn" with no difficulty.

CASE X.—*Operation for Trichiasis with Entropion.*—M. R., white, aged 18 months. Whole upper row of lashes turned inward in right eye. Constant inflammation and irritation. November 21, '93, with aid of Dr. D. M. Bashong, operated, making a modified Arlts' operation. A semilunar piece was removed from upper lid, including the cartilage and edges brought into position by four small sutures. Despite the age of patient, the result was good, the cosmetic effect being marked. The purulent conjunctivitis, notwithstanding treatment, subsided only after the operation.

CASE XI.—*Excision of Eye Three Years after Injury.*—Mr. G. W., aged 45, white, was seen April 13, '95, with Dr. J. M. Brown. Three years previously had hot lime thrown into his left eye while working at his trade of masonry. Received treatment in a Cincinnati hospital for several months. Constant pain and sympathetic irritation of right eye. Eye was excised April 19, '95. Time of operation 7 minutes. Examination of ball revealed an oncoming panophthalmitis. Quick recovery followed.

Keeley Must Make Known Composition of His Bichloride of Gold Mixture.

W. F. Johnson, of Topeka, sued Dr. Leslie E. Keeley in the U. S. District Court in session in Leavenworth, Kan., for $100,000 damages—having been made a physical wreck because of the "gold cure." Judge Myers, in granting the petition, rules that Keeley must make known the ingredients of his bichloride of gold compound, which is not a property right nor trade secret. It is unprotected by patent, and has been in use more than two years. There is nothing to prevent Dr. Keeley from testifying as to its composition, and the court orders him to do so.—*Chicago Herald*, May 2nd.

Present Status of Pharmaceutical Schools.

In the list of colleges of pharmacy given in the *Bulletin of Pharmacy*, July, 1895, omission of reference is made to the Department of Pharmacy of the University College of Medicine, Richmond, Va., as requiring three years' experience on the part of the student in a dispensing pharmacy under a registered pharmacist before he can be examined for the degree of "graduate in pharmacy."

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary; Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va.

Case Illustrating Some of Possible Results of Corneal Injury.

It is often a difficult matter to decide what is best to do in a case of severe injury to the cornea. The following case illustrates well one of the possible results of corneal injury:

Mary A., aged 11, was struck, in 1892, with a stick in her right eye. The blow cut the cornea entirely through in its horizontal meridian. There was no treatment, so far as I could find out, other than the application of cold or warm water. Two years and a half later, during the whole of which time the patient suffered constantly and severely with this eye, she was brought to the Eye Clinic. At a distance the eye presented the appearance seen in the most advanced stages of buphthalmus. Examined more closely there were seen two immense ciliary staphylomata, each occupying one-half of the ciliary region—one the part above the horizontal plane, the other below. A corneal scar two mms. in width occupied the entire corneal horizontal diameter. There was but slight bulging of the eye at this scar, which made a deep depression between the two staphylomata, so that an antero-posterior section of the front part of the eye-ball presents the following outline:

S S—Ciliary staphylomata.

C—Corneal scar separating staphylomata.

The distance from X to X (X representing the beginning of the staphylomatous area, the termination of the unstretched sclera tissue; in other words, X is the posterior

boundary in the healthy eye of the scleo-corneal junction); the distance, then, from X to X, measured over the surfaces of the staphylomata, *i. e.*, along the line -------, is 33 mms. When we remember that the horizontal diameter of the normal cornea varies from 10 to 13 mms., we shall be able to form some idea of the amount of stretching the front part of the eye-ball had undergone. The surfaces of the staphylomata were not regular in outline, being in places more prominent than others. The iris was, of course, adherent in the edges of the corneal scar. The eye, immensely enlarged as it was, could not be covered by the lids. The eye-ball was removed. Further examination of the outer surface of the ball revealed a posterior staphyloma of the sclera, occupying the posterior pole of the eye. This staphyloma was about 5 mms. in diameter. Upon opening the eye-ball, there was discovered a deep glaucomatous excavation of the optic disc. The ciliary bodies were found to be widely separating from each other. The lens was still present. Its posterior capsule was adherent, while the posterior part of the lens itself was so resistent as to suggest both to the touch and to the sight the possibility of its having undergone degeneration into a form of tissue other than lens tissue.

In this case we have what may be termed traumatic buphthalmus, a condition resulting from long continued occlusion of the natural channels for the transmission to the exterior of the eye of the fluids secreted by what modern ophthalmology would call the ciliary glandular system. In the non-traumatic variety of buphthalmus, the occlusion occurs as the result of inflammatory changes taking place in the ciliary region. There is another point here which is not to be overlooked: The patient was a child, and the elasticity of the tissues, and hence the possibility of a greater degree of stretching, of the sclera-corneal junction was possible.

The practical lessons to be learned from this case are in part the following: Should this case have been seen immediately after the accident, the advisability of suturing the cornea would have to be taken into consideration. It is little likely that this could have been accomplished, owing to the breadth and extent of the wound, allowing as it did

the lens and iris to be forced against the wounded part of the cornea. In the presence of a corneal wound so large as the above and similarly situated, the question of obtaining useful vision is secondary to the importance of being able to avoid the necessity for enucleation. The wound extending the full horizontal diameter of the cornea, and the iris being forced by pressure of the lens against the edges of the corneal wound, it would be necessary to do an upward or a downward iridectomy, or, perhaps better, both, *and then to extract the lens through the central corneal wound.* The iridectomies, *were the lens in position*, would prevent the subsequent high tension. Unfortunately, in most injuries of this kind, the lens never regains its natural position, but remains flat against the cornea, in which position its suspensory ligament is stretched, increasing thus the obstructions to the escape of the aqueous fluid. Just here it may be added that, even in small perforating corneal wounds, complicated by such injuries to the lens as to cause traumatic cataract, it is often of the utmost importance to do immediately an iridectomy and extract the injured lens, as by so doing we may preserve excellent vision and prevent complications which would take it out of our power to obtain any vision or even prevent the necessity for enucleation. (But of these indications more fully in connection with another case.) In such a case as the one described in this article, after a short while has elapsed, it is beyond our power to preserve the eye-ball, and enucleation becomes a necessity. The irregularities in the corneo-scleral staphylomata were the result of the development, as the result in turn of the injury to the cornea, of unequal resisting power in different parts of the tissues about the corneo-scleral junction. The development of the posterior scleral staphyloma is interesting because it shows the weakest part of the sclera posteriorly. *That there exists, even in normal eyes, this relative weakness of the sclera about its posterior pole must be borne in mind when we consider the etiology of myopia.*

Frontal Tumors, II:* Tubercular Tumor of the Frontal Bone.

Patient, mulatto boy, aged 16, was operated upon several times between '91 and '94 for tubercular glands of the neck. In March, 1895, he came to the Clinic with a tumor of the shape and about two-thirds the size of a hen's egg, situated on the right frontal eminence. The lower border of the tumor lay above the probable upper end of the frontal sinus. Over the whole surface of the tumor the bone had been destroyed, as could easily be proven by palpation of the edges of the tumor, where rough, irregular, angular projections of the frontal bone could be felt surrounding the whole tumor. There was no visible pulsation of the tumor, which could be felt to contain some soft, mushy substance, possibly pus. For some days symptoms of brain compression had been present. These symptoms were intense, unremitting head- and eye-ache. No papillitis as yet demonstrable. The nature of the tumor, since no connection could be proven to exist between it and the frontal sinus, and owing to its location and the presence of tubercular glandular degenerations of the neck, was clearly one resulting from tubercular osteitis of the frontal bone. Two questions suggested themselves in regard to treatment: Should the tumor simply be largely opened and packed with iodoform? or should a large skin incision be made, the contents of the tumor evacuated, and all of the rough bone surrounding the tumor be removed? Considering the tumor as a self-limiting one, the former operation was done. A solution of cocaine was injected into the skin along the line of incision, which was the long axis of the tumor. The skin was then cut through, after which the sac of the tumor was slit in a line corresponding to the skin incision. The contents of the tumor proved to be grayish in color, of the consistence of thick gruel, odorless. When the sac had been emptied it could be seen to pulsate, showing that its posterior boundary lay against the dura mater. Further treatment consisted in daily packing the sac with iodoform. The patient, in the meanwhile, continued to perform his daily work. At the end of about ten days the patient no longer came to the Clinic. In about three weeks the wound had entirely healed, leaving only a depressed linear scar. The deficiency in the bone has become filled in with scar tissue. The patient suffers no inconvenience from adhe-

**Frontal Tumors, I*, appeared in *Va. Med. Monthly*, April, 1895, Department of Eye, Ear, Nose and Throat.

sions that may have formed between the sac wall and the dura mater.

The lessons from this case seem to be that, *in tubercular tumors of the frontal bone, the operative treatment should be deferred until the contents of the tumor are fluid, and should then be confined to opening the tumor wall, evacuating the contents, and packing with iodoform.* The objection to removing the irregularities of the bone surrounding the diseased area is to be found in the fact that we thus open up channels for absorption of the tuberculous matter. These channels nature has closed during the time of the formation of the sac.

Depressed scars of the frontal bone, the result of tubercular osteitis, are not rare among the mulattoes, who as a race show out of all proportion to their numbers the greatest number of evidences of the scrofulous diathesis. Since this case was operated upon, a second similar one has been seen. In this second case there existed a depressed scar in the lower outer segment of the frontal bone. In this case, too, there were many large, ugly scars of the neck, the results of suppurating glands.

The Montreal Medical Journal,

In beginning a new series with the July, 1895, number, comes out in new dress, possessing the following features: Articles detailing the result of original work; the report of a clinic as actually delivered; signed reviews and criticisms; a monthly retrospect of Canadian medical literature; editorial comments on subjects of interest to the profession; full reports of the Montreal Medico-Chirurgical Society; keeping the alumni of McGill University informed of the doings and successes of their contemporaries.

The Polhemus Memorial Dispensary,

To be built in connection with the Long Island College Hospital, will be the gift of the widow of Mr. Polhemus. The estimated cost of the furnished five-story building will be $250,000, and she further contributes $250,000 as an endowment fund for its maintenance.

Skin, Venereal and Genito-Urinary Diseases.

Conducted by BERNARD WOLFF, M. D., Atlanta, Ga..
Lecturer on Dermatology, etc., in the Southern Medical College, Atlanta.

Pityriasis Rubra.

The following notes of a case more nearly resembling pityriasis rubra than any other scaly exanthem may be of interest:

Leah Field, negress, aged about 24 years, slight build, poorly nourished, the mother of two children, one of whom has a papular eruption of the extremities. Previous history indefinite. The patient came to my clinic in August, 1893, and stated that her trouble began seven years ago with the appearance of a crop of itchy papules on the arms and legs. The papules have never entirely disappeared, and in the last year have markedly increased. She came to obtain relief from disability caused by stiffening of the skin of the arms and legs.

Examination.—Scalp fairly covered with hair; presents fine branny scales, and a few hard papules the size of a squirrel shot. Similar papules are found on the forehead, cheeks and ears, but are more numerous, and are covered with small, dry, adherent scales. On the back, from above downward, the eruption spreads out fan-shaped until it reaches the lumbar region, where the papules are so closely set as to form a continuous patch, seated upon a broad band of harsh, infiltrated skin. A few of the papules contain a minute quantity of thin pus, but are more papules than pustules.

The skin of the axillæ is thickened, and hairless, and on the anterior and posterior walls of these spaces the lines of the skin are deepened, and there is a fine, branny desquamation over all. The mammary glands are covered with the papules. At their most dependent portion the skin is thickened, dry and scaly. On the abdomen, beginning at the umbilicus, and extending around the body to meet the band behind, the skin is markedly thickened, furrowed by deep wrinkles, harsh, and covered with small, closely adherent, very slightly greasy squamæ. This condition is somewhat more marked immediately around the umbilicus. The pubes are devoid of hair. The same papular eruption

occurs on the arm and fore-arm as upon other parts of the body. The hairs are short, broken, or worn off, and have a shaven-beard appearance, and show as black dots in the skin. Over the olecranon there is a rupioid elevation of dense, laminated scales, and this, together with the extensive patch opposite and rigidity of the skin of the flexure of the elbow, greatly hinder the mobility of the joint. The papules are less numerous on the dorsum of the hand, and have, at their apices, a small cornified plug, which, when removed, leaves a small concavity. The skin of the hand is greatly thickened, and the wrist-joint stiff. The finger-nails are unaffected, as is also the palmar surface of the hands.

The skin of the lower extremities presents much the same changes as that of the upper. The buttocks are the seat of large areas of scales, white, glistening, like snow, and the skin resembles that of a pachyderm. The popliteal spaces are fissured, and the skin below the patella is cevered with a large patch of scaly infiltrated skin. The feet are similarly affected with scaly patches, the toe-nails striated and thickened, and there are clavus-like elevations on the backs of the toes. The soles of the feet are normal. Viewed as a whole, the integument of the lower extremities, from its rigidity and harshness, fissured and lined appearance, closely resembles the carapace of a turtle.

There is polyadenitis. The sweat-secretion is somewhat diminished. The bowels are regular, the appetite fair. There is very little itching complained of.

A number of remedies were tried, with more or less benefit. The best results were gotten from a 5 per cent. solution of resorcin in olive oil. The oil relieved the skin of much of its harshness and rigidity, and facilitated motion in the affected areas about the joints.

As is characteristic of the negro race, slight improvement meant a discontinuance of treatment, so that I did not see the patient again for seven or eight months. When, at length, I saw her again, she was in a truly pitiable condition. She was bed-ridden, greatly emaciated, and much exhausted. The upper and lower extremities were flexed, and held immobile by the stiffness of the skin surrounding the joints. The papular element of the eruption that had previously existed was lost in the general scaliness. The whole body was enveloped in a dense rigid armor of thickened skin and accumulated scales. The latter were somewhat greasy, and could be removed with very little effort, leaving a moist surface behind. The scales emitted a ran-

cid odor. The patient continued for some months in this condition, growing gradually weaker, and finally succumbed to exhaustion from continued and enormous loss of epidermis by desquamation.

As I was not informed at the time of her death, I did not obtain a post-mortem, which is somewhat to be regretted.

The treatment was quite without avail. Temporary amelioration of symptoms was obtained by using oily preparations and bland ointments; but the good effect was not lasting. Probably a fatal termination might have been warded off had the patient been in a position to receive careful treatment and attention.

The subject of pityriasis rubra is much too large to be discussed here. It is sufficient to say that it belongs to a natural class of skin diseases, and this case, though not typical, resembles very closely the primary chronic universal pityriasis rubra of Hebra, and is a rare and grave affection. The term *dermatitis exfoliativa* has been used synonymously with pityriasis rubra, but it would seem to be something much more sharp and acute than the latter, and the former term is by no means fully descriptive of the case in point.

Cancer Developing from a Nævus.

Mrs. M. G. W., aged 61 years, consulted me in June for a "sore" at the outer angle of the eye. She said that for thirty years she had had at that point a small flat mole covered with smooth skin, and that one year ago it began to ulcerate.

The resultant ulcer was situated a little beyond the external canthus of the eye, and could be covered with a fifty-cent piece. The borders of the ulcer were hard, vascular, everted and waxy. The ulcer was crateriform—one-half inch in depth—the bottom covered with an adherent slough which, when removed, showed the periosteum of the bone. There was some extension of the ulceration along one of the lines of the upper eye-lid, and a portion of both lids had been lost in the ulcer, so that the inter-palpebral fissure was diminished, and the lids could be only partially opened.

The ocular conjunctiva was injected, but otherwise normal. The ulcer was an epithelioma, resembling the crateriform ulcer of Hutchinson in appearance and rapidity of extension.

It is quite unusual for epitheliomata to be developed from moles. In an article on nævi and nævicarcinome, Unna, of Hamburg, reported having found, in specimens from a case said to be pigmented sarcoma, a carcinoma of alveolar structure. From a study of soft, button-shaped moles, he concludes that they are the remains of cells separated from fœtal epithelium, and can form carcinomata under circumstances of injury or irritation.

This case I have put on 5 per cent. aqueous solution of yellow pyoktannin, following the suggestion of Heyl in the *Annals of Ophthalmology.* An operation would necessitate the loss of a great deal of tissue, and entail much disfigurement, so that I shall attempt conservative measures before resorting to more radical ones.

Acetanilid Heals Chancroids in from One to Seven Days.

Dr. Thomas S. K. Morton is reported as saying in the *Philadelphia Polyclinic* that upon "chancroids, the effect of acetanilid is most surprising." He states that all soft venereal sores (chancroids) and inflammations "have uniformly healed in from one to seven days, with a single exception," which one was of a phagedenic nature, and required cauterization with nitric acid before it would heal under the acetanilid. He prescribes a drachm of powdered acetanilid. The patient is to wash several times daily, and then rub in the dry powder. If the sore is beneath the prepuce, leave a quantity of the drug inside, which prevents excoriations by urethral discharges. The drug is entirely wanting in odor.

Ichthyol to Abort Furuncles.

According to Dr. Cantrell, a 50 per cent. ointment of ichthyol applied thoroughly over the irritated part will usually abort a furuncle in about twenty-four hours.

Department of Electro-Therapeutics

Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va.
Member of Medical Examining Board of Virginia, etc.

The Sinusoidal Current---Its Effects, Indications, and Production.

M. d'Arsonval, of Paris, in 1882, in a paper read before the French Society of Physics, described an alternating electro-magnetic current to which he applied the term sinusoidal. By modification of the electro-magnetic machine originally used, d'Arsonval obtained a current in which the rise and fall of potential was uniform from zero to the maximum and back to zero again, and in both directions. The tracings of this current, as shown by the electrographic—a specially-devised apparatus for registering the tracing of currents—shows a series of perfectly regular curves; hence the term sinusoidal.

The therapeutic effects of this current, as described by d'Arsonval, struck Dr. J. H. Kellogg, of Battle Creek, Mich., as agreeing closely with the effects which he had been obtaining from the use of the electro-magnetic current for some years. He had, as a result of his observation of the effect of the current, been led to make a series of experiments, the results of which have been given in a paper read before the American Medical Association in 1888, and in subsequent papers.

The marked peculiarity of this current, to which attention was called, was its capability of producing energetic and painless muscular contraction, and that it was also a most effective means of stimulating the nutrition of parts to which it was applied, and the author claimed that the therapeutic results following the use of this current justified him in claiming for it a decided superiority over any other form of electrical current for exciting muscular action. Though making constant use of this current on account of its peculiar effects, Dr. Kellogg was at a loss to under-

stand its peculiar qualities; then the publication of d'Arsonval's graphic representations of currents of regular and irregular variation, led him to make a similar study of the current produced by the electro-magnetic apparatus. His first step was to devise and perfect an electrographic, by means of which he has been able to make accurate tracings of various currents, reproductions of which are to be seen in his recently published papers. Having made a special study of the sinusoidal current, he has also perfected an apparatus for its production, and of this mention will be made later on.

The most characteristic effects produced by the sinusoidal current, are its painlessness and its great penetrating power. D'Arsonval has shown that the intensity of the motor, or sensory, reaction produced by a given current is proportional to the variation of potential at the point excited. The constant alternation of the current prevents polarization of the tissues acted upon, and hence maintains the maximum exciting effect.

Important physiological significance must also be attached to the mode of variation in potential, as well as to the amount of variation.

In the use of the sinusoidal current from Dr. Kellogg's apparatus, different effects are observed, as the machine is rotated at low or high rate of speed. When rotated slowly, and the electrodes held one in each hand, vigorous contractions are produced in each arm, and in alternation, nearly all the muscles of the arm seem to participate in the contractions. When one electrode is placed in contact with the feet and the other held between the hands, the muscles of both extremities are made to contract vigorously. The contraction is spasmodic rather than tetanic in character, as when the faradic current is employed. By proper adjustment of the current, strong muscular contractions may be endured without producing the slightest sensation on the skin, and without any pain whatever. With electrode placed in the rectum or in the vagina, and the other on the abdomen, strong contractions of the abdominal muscles

may be produced, and even of the muscles of the upper thigh, without any sensation other than that of motion.

With rapid rotation of the machine, the current obtained is capable of producing strong tetanic contractions similar to those induced by the faradic machine The only skin sensation produced by the application of a sufficiently strong current to induce tetanic contractions, is a slight pricking, but far less intense than that produced by a faradic current capable of exciting equally strong motor effects.

The sensory effects of the current are interesting, and are best obtained by giving the machine a high velocity. With a high velocity and gradually increasing current, the application of electrodes to the temples is followed, the eyes being closed, by an appearance of rotating waves of light resembling a luminous whirlpool, in the region of each electrode. This luminous field is not stationary, but moves with the electrode. As the current increases in strength, the display of light increases in brilliancy, finally becoming so extended and intense that the whole front of the head seems to be brightly illuminated. At this point, very slight pricking sensations of the skin, which increase as the intensity of the current increases, are experienced. A remarkable characteristic of the current is, that strong impressions are made upon the optic nerves, or their centres, by a current too delicate to be recognized by the nerves of the skin—an effect that must be due to the great penetrability of the current.

During the last ten years, Dr. Kellogg has made many thousand applications of the sinusoidal current, the greater number being in gynæcological cases, and the following is a summary of his observations of its therapeutic effects. He has found it chiefly valuable:

As a means of exercising the muscles, particularly muscular groups, which cannot easily be brought into isolated action by voluntary effort, and in cases in which, through injury of the nerves or nerve centres, or through disability

of some other organ, exercise by voluntary effort has been impracticable.

He has found the current available as a means of producing muscular contraction in cases in which degenerative changes had advanced so far as to destroy the reaction to the faradic current, and also of great value as a means of securing passive exercise in connection with the rest cure, in which respect its superiority over faradism, applied as prescribed by S. Weir Mitchell, is incontestable. It is generally superior to the faradic current on account of the more vigorous contractions obtainable and the painlessness of the application. It is also valuable as an alternate treatment to be employed in connection with massage.

Dr. Kellogg has found the slowly alternating sinusoidal current of special value for strengthening relaxed and undeveloped abdominal muscles in gynæcological cases. He has learned to attribute a great part of the long category of symptoms complained of by women suffering from so-called female weakness, such as backache, dragging sensations, weakness, to a relaxed condition of the abdominal walls, resulting in what Trastour terms "desequilibration," or disturbance in the static relations of the abdominal viscera, rather than to primary pelvic disorders.

[Our experience fully sustains the opinion of Dr. K. on this point, and we regard the matter as one of great practical importance.—R. M. S.]

Relaxed abdominal walls, says Dr. K., allow the viscera to become pendent, and a constant drag upon the branches of the great sympathetic distributed to the organs, results in congestion and irritation of the sympathetic ganglia, and through the morbid influence thus set up, give rise to a multitude of painful and neurasthenic symptoms, which render miserable the lives of thousands of women who, though not really suffering from disorder of the pelvic organs, are continually under treatment for some imaginary prolapsus, or anteversion, or ovarian irritation or other pathological myth.

By strengthening the abdominal muscles, and thus re-

placing the prolapsed abdominal viscera, and restoring the normal abdominal tension so that the portal circulation recovers its normal tone. Dr. K. states that he has succeeded in curing hundreds of invalid women who had previously sought relief in vain at the hands of many gynæcologists, and in the accomplishment of this, the sinusoidal current certainly played a very important rôle. It is especially valuable in the beginning of the treatment of such cases, before the patient has acquired sufficient strength or confidence to engage in active gymnastic exercises, or to be subjected to the active or active-passive exercises of Swedish movement system.

The therapeutic indications of the sinusoidal current will be continued in the next number.

As heretofore stated, Dr. Kellogg has perfected an apparatus for generating the sinusoidal current, which is now manufactured, and can be supplied by the Sanitary and Electrical Supply Company, of Battle Creek, Mich., at the moderate price of twenty-five dollars. The apparatus, however, requires some kind of motor to operate it, the cost of which would be additional. The cheapest form of motor is the hand motor, the price of which is five dollars. An electric motor operated by a street current or storage battery would be more satisfactory.

It is claimed for this apparatus that:

1. It produces physiological and therapeutic effects of a most decided and important character, which are not obtainable from any other form of electrical apparatus.

2. Aside from the galvanic current, it is the only form of electrical apparatus which affords a means of exact and accurate dosage, or the only apparatus with which accurate dosage, with variable large limits is possible.

3. Its therapeutic applications are painless.

4. It affords the most efficient means possible for exercise of the muscles, producing the most marked muscular contractions without pain.

5. It is unexcelled as a means of relieving pain, or exciting the nerves of special sense. This current succeeds in

relieving pain in a large proportion of cases in which the galvanic, faradic and static current fail.

6. This current has a larger range of adaptability than any other current.

7. The first cost of the entire apparatus is less than that of other first-class electrical outfits, while the effects obtainable are much more varied, and of a character not approached by any other apparatus.

8. The apparatus may be maintained without any expense whatever, as when the machine is used with a permanent magnet and runs with photo-spring-power, there are no battery plates or fluids to be consumed, and nothing whatever to get out of order. It is always ready to give its maximum current, and any lesser current desired.

9. The apparatus is provided with a commutator, by which the alternating current is converted into a direct current capable of producing all the effects of an ordinary galvanic current.

10. The large capacity of this apparatus is shown by the fact that it will light an ordinary 16 C. P. electric lamp.

11. The sinusoidal apparatus is extremely convenient in use. It is always ready for business, and several different currents can be obtained by simply moving a switch and without adjustment of the conducting cords.

12. It is provided with a perfect speed regulator, and the current is controlled by a simple rheostat.

13. It furnishes all the desirable effects to be obtained from both the galvanic and faradic batteries, together with a large number of other effects which are not approached by any other apparatus.

14. It requires no clearing of cells and brightening of contacts; gives no unpleasant fumes; does not get upset, and never produces disagreeable or undesirable effects.

Dr. Ernest Laplace,

Professor of Surgery in the Medico-Chirurgical College of Philadelphia, is to be congratulated on reception of the well-merited degree of LL.D., from Georgetown University.

Proceedings of Societies, Boards, etc.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

July 9th, 1895.—Dr. M. W. Peyser, *Reporter*.

Lessons from a Case of Gunshot Wound of the Abdomen Perforating the Liver.

Dr. Hugh M. Taylor had recently treated, with Dr. Landon B. Edwards, a young police officer suffering with a pistol wound of the abdomen. The ball was fired at close range, passed through the left border of the rectus muscle near its sternal attachment, perforated the left lobe of the liver from above downward, traversed the upper part of the abdominal cavity in a direction downwards and backwards, passed through the quadratus lumborum muscle from within outwards, and lodged under the skin just above the crest of the ilium.

Some interesting points in connection with bullet wounds of the belly were illustrated by this case. When first seen, an hour after being wounded, the absence of shock was very striking; pulse about 85 or 90; temperature normal; facial expression and morale good; lips red. This condition, as subsequent revelations demonstrated, emphasizes the fact that shock is of no diagnostic value in differentiating between a penetrating and non-penetrating wound of the belly. It confirms the conclusion that we may have a penetrating wound of the abdomen, with serious visceral lesion, with little or no shock, and on the other hand, it is well recognized, a very insignificant wound, penetrating or non-penetrating, of the abdominal wall, may be attended by profound shock

So many factors other than the serious nature of the wound enter into the production of reflex vaso-motor paresis or shock, that its presence or absence is of no value from a diagnostic point. Age, temperament, the conditions under which the injury has been received, etc., all influence the degree of shock. It has been claimed that soldiers, wounded while retreating and defeated, suffer more from shock than when flushed by victory. It is known that some temperaments are so impressible that they will collapse and faint from a very trifling injury; while others, with fatal penetrating wounds of the belly, have been known to walk a mile before becoming incapacitated by

shock. This patient walked about a half mile, and most of the distance over rough fields and up hill, after being shot, when he got into a carriage, rode sitting up to his home a mile off, walked upstairs practically unassisted, and yet showed no sign of shock.

The case also sustains the conclusion that the degree of shock is no guide as to whether or not we have visceral lesion with the penetrating wound of the belly. If the degree of shock had been accepted as a guide to the need of operative interference in this case, radical measures would not have been justifiable. Appreciating the fact that we have no known symptoms by which we can differentiate between a penetrating and non penetrating wound of the belly, and no means by which we can settle the doubt beyond all question, except by carefully dissecting along the tract of the bullet down to the peritoneum, such a course was at once decided on.

A further appreciation of the fact that much depends upon the primary treatment of the gunshot wound, that its future course often depends upon the treatment it receives at the hands of those who first treat it, active interference was postponed until the patient could be carried to the Virginia Hospital, and provision made for doing aseptically any surgical procedure found necessary.

In connection with the diagnosis of penetrating wounds of the belly, he said few instruments have probably worked as much mischief in failing to give the sought for information and in further infecting the wound as the probe. Too much stress cannot be laid upon the importance of doing nothing until we have arranged to do any and everything needed, and doing it surgically—*i. e.*, aseptically. The probe is a poor guide, displacement and replacement of the muscular plains, fascias, etc., does not often leave a tract which the probe readily follows, and it is so easy to push the peritoneum inward, and so easy to make a penetrating of a non-penetrating wound—indeed, so easy to be misled in many ways by the probe, that its usefulness is much outweighed by its dangers and deceptions. It is to be regretted that we so often see mentioned, "The doctors probed for the ball." Even the finger carried into the wound tracts fails to differentiate between the penetrating and non-penetrating wound, as it is so easy to push the uninjured peritoneum on in front of the finger. Moreover, while it is true that the finger, with tactus eruditus fully developed, has been aptly compared to a probe with an eye in it, we must not

forget that the socket of that eye is often full of infection, and should be asepticised before it is used. Nothing short of a dissection along the tract of the bullet is conclusive that the wound does or does not enter the belly. The protrusion of omentum or bowel, or the escape of feces, does not often occur. Finding by dissection that the cavity of the abdomen has been entered, in the absence of symptoms of visceral lesions, a nice point comes up. Shall we go on and explore the belly, or wait for symptoms of visceral injury? There is a diversity of opinion in regard to this point. Conservative men are inclined to wait. Others think the best interests of the patient are conserved by radical interference, arguing that there is a minimum danger *per se* of a properly made exploratory abdominal section —not the impossibility, but the improbability, of a penetrating quarter wound of the belly without serious lesion, and especially if the abdomen has been traversed in a line below the umbilicus.

In considering shock in connection with bullet wounds, as well as other injuries, we should remember the fact that the maximum degree of shock is reached early—immediately after the injury—while the depression incident to hæmorrhage is slower in its advent and is progressive, and this fact is always an important one in differentiating between hæmorrhage and shock. An exception to this rule occurs in the case of a crushed limb, where the sharp ends of broken bones, by increasing pain, nerve irritation, etc., may add shock to shock and prolong the condition.

In two or three hours after the injury in this case, the depression became marked—so much so that we were urged by those who accompanied him to the hospital to operate at once. While some of the depression was reasonably attributed to the fatigue, excitement, etc., incident to removing the patient two or three miles to the hospital, this of itself was not sufficient to account for the progressive depression witnessed. An absence of shock at first, followed in a few hours by progressively increasing depression, was strongly indicative of hæmorrhage.

An exploratory incision along the tract of the bullet showed the peritoneum wounded and the peritoneal cavity full of blood. A further exploration revealed a perforation of the left lobe of the liver, but no other visceral lesion—a matter of surprise, as the stomach was distended by a hearty supper eaten a few hours before, and the intestines were so distended with gas it was hard to conceive how they escaped

being injured. The wounds in the liver were still bleeding freely—much more so than one would suppose they would do in the depressed condition of the patient. The abdominal cavity was quickly flushed with hot saline solution and the field of bleeding made clear. An attempt was then made to stop the hæmorrhage by means of deep sutures, but this procedure was a signal failure, as was also the continuous use of hot saline solution. As a last resort, strips of iodoform gauze were packed in the liver, wound of entrance and exit, and the ends brought out of the abdominal incision. This plan of treatment controlled the bleeding effectually and there was no recurrence.

As a result of the profuse post-operative hæmorrhage and the operation for its arrest, the patient was in an alarming state of collapse when put back to bed. Reaction, however, was prompt, and seemed to be brought about rapidly and to a maximum degree by subcutaneous transfusion of saline solution. Some drainage by the gauze was effected for the first twenty-four hours. After that time it became dry, closed to drain, and was, without complication, removed.

Having tided the patient over the first danger common to all intra-peritoneal wounds with visceral lesion—viz: hæmorrhage—the next indication for treatment was to anticipate and ward off septic peritonitis. A due appreciation of the important part which the intestinal tract plays in the elimination of sepsis prompted the administration within the first twenty-four hours of broken doses of calomel, followed by sulphate of magnesia. This medication has a manifold mission—to stimulate glandular activity and use the intestines as sewers for the escape of septic products; to wash out pathogenic micro-organisms whose normal habitat is the gastro-intestinal canal from anus to mouth; by increased peristalsis to straighten out the intestines and liberate them from abnormal adhesions or flexions; to prevent blood stasis in consequence of flexions, adhesions, etc.; to prevent a locus minoris resistentive in consequence of the stasis and a migration through the point of weakened resistance of pathogenic micro-organisms from the bowel to the peritoneal cavity. In spite, however, of persistent efforts with calomel and salts by the mouth, and high enemata of salts and glycerine and turpentine by the rectum, no action could be obtained—not the slightest wave of peristalsis was at any time appreciable; no movement of gas was audible—a significant omen in this case as it is in a majority of cases of very complete intestinal paresis

and obstruction from sepsis. As a matter of fact, the complete obstruction was the most pathognomonic symptom of sepsis present. While the patient was almost jaundiced in appearance, this was not a surprise in view of the free hæmorrhage injury to the liver. At no time was the condition of the pulse or temperature significant until within a few hours of the patient's death: the pulse was never more than 100, and the temperature ranged from 100 to 101. To the diagnostic and prognostic value of variations in the temperature no importance was or should be attached, as it is too well known that violent sepsis is not incompatible with either a subnormal, normal, or very slightly elevated temperature. The slow pulse was, however, a matter of some surprise, as it is more common to find a rapid pulse accompanying sepsis, and, if co-existing with a subnormal temperature, it is significant of serious trouble. Exaggerated abdominal distention was not a marked feature in the case, but this was a matter of minor diagnostic value, as it is not unusual to find a flat belly with profound sepsis.

As a last resort, the abdomen was re-opened and flushed out with hot saline solution. Bloody serum in considerable quantity was washed out; the focus of inflammatory action was along the course of the bullet. The striking contrast between the parts in immediate proximity to the wound tract and those even a little remote suggested the idea that the tract was infected by the bullet.

To what extent does our knowledge of the subject of infection of bullet tracts by the bullet demand efforts at sterilization? Certainly, as far as we know, we have no means of distinguishing between the wound which has been infected by the bullet and one free from such contamination. As to the probability of infection by the bullet, there is a diversity of opinion. Dr. Teun, in his address on "Conservative Surgery on the Battle Field and First Aid to the Wounded," says: "Perfect aseptic surgery on the battle-field is a happy dream which will probably never be realized. The bullets, as recent experiments have shown, are frequently contaminated with pathogenic microbes, and often carry with them infectious fragments of clothing and other foreign substances, as well as microbes from the surface of the injured part." On the other hand, the *American Text-Book of Surgery* says: "Fortunately, experience has shown that in many instances a penetrating bullet does not carry with it septic material, and that, if a wound which

has been thus made is preserved from subsequent infection, an aseptic course of healing will take place."

If we accept as inevitable infection of the tract of a bullet wound of the belly, drainage seems strongly indicated. If we are willing to trust to the chances of non-infection, drainage is only called for by conditions other than the mere wound infection *per se.* As the fatal issue in this case from septic peritonitis indicates, it would probably have been better practice to have provided for free dependent drainage of the abdominal cavity in anticipation of the needs therefor; but in this class of cases, as in others in the absence of local or general septic accumulations, one must have a keen appreciation of the probable need of drainage to provide for it in anticipation.

Appeal of Acting Assistant Surgeons, U. S. Army.

To Late Acting Assistant Surgeons, who Served in the Army During the War:

It is well-known that those who served in the Union Army during the War as Acting Assistant Surgeons have no standing, as they were not commissioned officers.

It is our purpose to secure a merited recognition from the next Congress, in order that we may join the Grand Army and Loyal Legion, and be entitled to pensions under the laws of 1890. We shall ask Congress to give us commissions.

Dr. Lamb, President of the Association of Acting Assistant Surgeons, has appointed the undersigned to act as a committee to secure funds for this purpose. If we can raise a sum sufficient, we will secure the services of a prominent law-firm—that of O'Beirne & Brody—to push our claims.

Any Acting Assistant Surgeon who wishes to aid us can send his subscription to either of the undersigned.

DR. HENRY E. WOODBURY,
DR. HENRY A. ROBBINS,
Committee.

Washington, D. C.

William Henry Schieffelin,

Senior member of W. H. Schieffelin & Co., New York, died June 21, 1895, from a paralytic stroke, following an attack of acute dyspepsia.

Analyses, Selections, etc.

Is Glucose Injurious?

We often hear parents cautioning their children against the use of candies "because they are so injurious;" while the truth of the matter is that the parent objects "because they are so expensive!" However, a writer is found now and then who declares anything injurious which contains glucose; and as the best candies in the world contain this product, he argues that they must not be eaten. In a late number of the *New York Medical Journal*, Prof. Bartley, of Brooklyn, has considerable to say on this subject. While he accepts the fact that all our starchy foods must be changed into glucose before they are absorbed, yet, he says, the danger comes from putting this digested starch into the stomach. He argues, that normally glucose is not formed until the food is out of the stomach where its digestion and absorption are comparatively slow. If glucose be in the stomach, Prof. Bartley says, "it *may* prove too great a tax upon the liver," and "the blood *may* be over-charged," and, as a result, sugar may appear in the urine. While Prof. Bartley can only use the word "*may*" in this connection, yet it *may* be sufficient to excite fear in the minds of some, that danger lurks in every drop of glucose. However, about the time Prof. Bartley's article appeared, there appeared another in *Modern Medicine*, by the editor, Dr. J. H. Kellogg, of the Battle Creek Sanitarium, which overthrows completely the position taken by Dr. Bartley. As a result of the examination of the stomach contents, after a test meal, in 4,875 cases, Dr. Kellogg shows that salivary digestion continues in the stomach, notwithstanding our old ideas to the contrary. What does this argue? That the formation of glucose in the stomach is a natural result of digestion in every healthy individual. It must follow then that either Prof. Bartley is incorrect, or there are about sixty-five million diabetic patients in the United States! For us, we will accept the former, as there is not a particle of evidence that starch, digested in the stomach or out of it, could ever be the cause of the appearance of sugar in the urine.

Chemical Test for Tuberculous Sputum.

Dr. Roering (*Aerzl. Runds.*, No. 6, page 81, 1895, noted in *Amer. Medico-Surgical Bull.*, July 1st), gives a chemical test for recognizing tuberculous sputum, which seems to be

much more conclusive evidence of the disease than the presence of the bacilli, and more easily conducted than the examination by the microscope. The test is readily made. Take equal parts of sputum and distilled water; say a fluid ounce of each. In the water, a drachm of starch is dissolved by boiling. The mixture is well shaken and subjected to the action of heat over a water-bath at 37° C. (98.66 F.). The sputum loses its tenacious character and becomes of a uniform consistence. At the end of four hours it is again well shaken, and a portion taken, to which a few drops of a diluted solution of iodine are added. No blue color appears. This proves that some substance in the sputum destroys the starch molecule on the application of heat; for tested with iodine before heating, the mixture becomes deeply blue. On testing the heat-mixture with Fehling's solution, the result shows that the starch is partially converted into glucose. Dr. Roering found the amount of glucose to be 0.4 per cent.

The experiment was repeated with a piece of tuberculous lung of a beef. Originally, the lung contained no sugar; but after being warmed with the starch solution for five hours, large quantities of glucose were found, but no starch re-action, thus further proving the destruction of the starch molecule and its conversion into glucose by some substance in the tuberculous matter.

The experiment was repeated with healthy lung tissue, with the result of the destruction of the starch molecule, but *not its conversion into glucose.* This fact shows that some amylolytic substance exists in the diseased lung *tissue* or in the sputum.

Another re-action is equally interesting, and possibly as conclusive. When about half a drachm of pure sulphuric acid is placed in a test-tube and covered with some tuberculous sputum after having been evaporated over a water-bath until it becomes of the consistence of thick paste, a violet ring is seen to form at the point of contact. On shaking, the whole mass becomes a diffused violet color. A few drops of a solution of sodium carbonate added to the sputum makes the re-action more pronounced. The sputum from non-tuberculous patients gives a *red* color by the same test.

The amylolytic substances seem to be a product or excretion of the tubercle bacilli, for its pure cultures give the same violet color. All the apparatus required is a test-tube, an improvised water-bath, and a clinical thermometer.—*Med. Herald*, July, 1895.

Book Notices.

Guide to the Aseptic Treatment of Wounds. By Dr. C. SCHIMMELBUSCH Assistant in the Royal Surgical Clinic of the University of Berlin. *Preface by* PROF. E VON BERGMANN. *Translated from the Second Revised German Edition, with Express Permission of the Author, by* FRANK J. THORNBURY, M. D., Lecturer on Bacteriology, University of Buffalo, N. Y., etc. *With 43 Illustrations.* G. P. Putnam's Sons, New York. 1895. Cloth. 8vo. Pp. 233. (For sale by The J. W. Randolph Co., Richmond, Va.)

This little volume is up to date in all the essentials that pertain to the aseptic treatment of wounds. It starts out with the doctrine that the normal body in the state of health does not contain any bacteria, and that germs gain access to the wound only from without. Then the germs of wound infection are discussed, and a number of trite illustrations are used—especially instancing erysipelas and tetanus. The means of disinfection—of operator's hands, instruments, assistants, surface of the body, etc.—are given in full detail. Sterilization is then described, with many points of technique. While there is not much new in the book, the systematic presentation of all the essential points connected with the subject makes it a most valuable textbook for students and the few doubting Thomases who undertake denials of fact.

System of Surgery. *Edited by* FREDERIC S. DENNIS, M. D., Professor of Principles and Practice of Surgery, Bellevue Hospital Medical College, etc.; *Assisted by* JOHN S. BILLINGS, M. D., LL. D., D. C. L., Oxon., etc. VOL. II. *Profusely Illustrated.* Philadelphia: Lea Brothers & Co. 1895. Large 8vo. Pp. 926. Cloth, $6.00

We can scarcely see how any practitioner of surgery in this day can well afford to be without this great book, covering, as it appears, all the possible special injuries and surgical diseases which one is apt to meet in a life-time. Thorough in every detail of theory and device, it is the work for the practitioner. Of course, asepsis is everywhere advised as an essential of successful treatment. This Volume II treats especially of "minor, plastic and military surgery—diseases of the bones—orthopœdic surgery—aneurism—surgery of the arteries, veins and lymphatics—diseases and injuries of the head—surgery of the spine—surgery of the nerves." During recent years, there has arisen a special demand for the use of the military in many of the States.

Too often regimental and assistant surgeons have been chosen for responsible positions because of their personal popularity and general qualities. But the time is at hand when the surgeons of State troops—called suddenly from private practice to the field—should prepare themselves especially for field work. Many advances have been made in "military surgery and the care of the wounded on the battle-field" since the events connected with what authors still refer to as "the late war," as if it were just over, instead of having been ended more than thirty years ago. Medical officers connected with volunteer State military cannot find in any one accessible volume a better epitome of what may be needed in a moment than is presented in this Volume II. We call special attention to this excellence of the volume, because we think it important to doctors in every State where their are State troops. This well-prepared section of the volume is prepared by Lieutenant-Colonel and Deputy Surgeon General of the Army, Wm. H. Forwood, M. D., Professor of Surgery in Army Medical School, Washington, D. C. Other authors in the volume are Drs. Fred. S. Dennis, Geo. R. Fowler, Fred. H. Gerrish, V. P. Gibney, W. W. Keen, Roswell Park, J. B. Roberts, Nicholas Senn, L. A. Stimson and H. R. Wharton—each of whom has contributed most valuable articles to the work.

Remote Consequences of Injuries of Nerves and their Treatment. By JOHN K. MITCHELL, M. D., Physician to St. Agnes' Hospital, etc. Philadelphia: Lea Brothers & Co. 1895. Small 8vo. Pp. 245.

This is a work that interests every practitioner. It contains the report of examinations of the present condition of wounds, or commotion of nerves, received during the latter part of the Civil War, with additional illustrative cases. Original notes of most of the cases as they came under observation, soon after the wounding, are taken from the small work on *Gunshot Wounds and Other Injuries of Nerves*, by Drs. Weir Mitchell, Morehouse and Keen, published by J. B. Lippincott Co., in 1864. Treatment by transplatation of nerve at first seemed to offer some return of nerve function; but subsequent investigations do not show enough of improvement to warrant the hope of material benefit. Faradism gives better results. Cocaine is preferred to morphine to relieve pain. Neurotomy and nerve stretching are often required.

Treatise on the Nervous Diseases of Children. By B. SACHS, M. D., Professor of Mental and Nervous Diseases in New York Polyclinic, etc. New York: William Wood & Co. 1895. Large 8vo. Pp. 666. Cloth.

With the ever-advancing study in nervous diseases especially, progress has been so far made as to render it essential that those diseases of the nervous system distinctive of or belonging to the age of childhood should be grouped into one volume for closer study. We find the *Treatise* now before us admirably arranged and well written for the guidance of the practitioner or student of children's nervous diseases. We do not know of any one paper that is more valuable to the student than the introductory chapter, of 46 pages, which is devoted to methods of examination. Part I, covering about 150 pages, is given up to general nervous diseases; while Part II, of about 400 pages, considers the organic diseases of the nervous system in detail. Those conditions with which the practitioner most frequently meets are discussed at length—such especially as convulsions, etc. Where there is so much of text to commend and so little to critcize, we would do injustice to ourselves as well as to the book in an effort to bring out its greatest values. The descriptive drawings, photographs from the characteristic cases, are of the greatest help to the student; for pictures that give expression aid materially in the appreciation of the text. Diagramatic drawings are also profusely introduced. The index is good. The general style of the book is such as to attract attention; the paper is excellent, and the printing is of a grade that must commend itself. As a systematic work in the special line the author adopts as his guide, we know of no treatise that so well meets the desires of the doctor. We hope Dr. Sachs, when called to get out a new edition, will enlarge the paragraphs on pages 655–6, devoted to the few drugs commonly used in nervous disorders.

St. Luke's Hospital, Richmond, Va.,

Is closed during August. Dr. Hunter McGuire is having the building renovated for admission of patients early in September.

Editorial.

Regular Medical Colleges.

We do not mean to say that every worthy college has been advertised in the pages of this journal; but we do believe that there is in the United States none better than most of those whose advertisements appear in this issue. When we examine college catalogues, and see the great number of students who constantly go or come from the States commonly known as Southern, there is reason for surprise that all of such colleges do not make fuller advertisements in southern journals: But we turn the whole matter over to our readers, calling their special attention to each of the institutions named in the appended notes:

UNIVERSITY OF VIRGINIA.—The changes introduced in recent years to meet the growing demand for a broad and thorough professional training in medicine have met a liberal response in the growing number of students. Within the last eight years, this number has risen from 55 in 1886–'87 to 171 in 1894–'95, the last being the largest number ever registered. The changes consist in the expansion of the laboratory and clinical work. The courses in histology, bacteriology, pathology, and anatomy, are now unusually thorough, practical, and extensive. The didactic courses have been relieved by the transfer of work to these new courses, and have been correspondingly strengthened in other directions. The advanced students receive a large amount of individual clinical instruction in connection with the dispensary.

MEDICAL COLLEGE OF VIRGINIA.—This institution enjoys the distinction of being the only Medical College in the South whose sessions were not interrupted by the War, and, in consequence of the great demand for surgeons in the Confederate Army, held two annual sessions during that period. The 57th session began its three years' graded course, which required three full courses in three separate years, and the class, so far from falling off in numbers in consequence of this requirement, actually increased nearly fifty per cent. over the previous session, having reached 139 in number. The fee for tuition is $90, and covers everything except a diploma fee of $30 at time of graduation, there being no extras of any kind whatsoever. The 58th annual session will begin September the 15th, 1895, with greatly increased

facilities, nearly $15,000 having been spent in improvement of various kinds in the past two years on the College and Old Dominion Hospital adjoining and under control of the College. Its system of instruction is didactic and clinical, with abundant material for illustration.

UNIVERSITY COLLEGE OF MEDICINE, RICHMOND, VA., has proven a wonderful success. Its first session matriculated 83 *medical* and 38 dental and pharmacal students. During its second session, there were 203 matriculates, of whom 148 were *medical*. Correspondences indicate that there will be even larger classes next fall. It has the usual three years' graded course. The catalogue announces a "Perpetual Ticket," covering all expenses for three years, except the diploma fee—a feature worth looking into by one about to begin the study of medicine. Additions are constantly being made to the buildings, laboratories, didactic and clinical equipments, etc., so as to keep the institution in the front rank of colleges.

THE SUMMER SCHOOL OF MEDICINE, UNIVERSITY OF VIRGINIA, is the only institution of the kind in the South that is distinctly open only during July and August. It is designed especially for those who are taking their first lessons, and for those who wish to review their studies in the fundamental principles of medicine. It does excellent work for the beginner, and makes him a better first year's student in any graduating school.

VANDERBILT UNIVERSITY.—Heretofore the Medical Department has been conducted in connection with that of the University of Nashville. The tie between Vanderbilt University and its Medical Department was very lax. To bring this Department up to the high standard which the University enforces in other lines, radical changes had to be made, which led to the reorganization of this Department—providing new methods of instruction, larger laboratory facilities, etc.; hence a new, handsome, commodious building, with every appliance, etc. Prospects for the year 1895–'96 good. Requirements for admission are the qualifications adopted by the Southern Medical College Association.

MEDICAL DEPARTMENT OF UNIVERSITY OF NASHVILLE was inaugurated 1851 with a faculty of eminent men, and its alumni have furnish the profession with men of high rank in war as in peace. For some years since the war it was operated in connection with Vanderbilt Univessity; but hereafter it will again resume its independent position. The old build-

ing has been torn down and a new one—commodious and complete in every detail—is about completed, just opposite the University of Nashville campus. Its reorganized faculty consists largely of the immediate successors of the founders of the school, besides a few new professors of noted ability as medical teachers.

THE CHATTANOOGA MEDICAL COLLEGE closed its sixth session the middle of last March in a most prosperous condition, and approaches its seventh year with a bright outlook for large increase of patronage. The dedication of the great Chickamauga-Chattanooga National Military Park occurs coincidently with the opening of the next term, and will attract tremendous crowds to its city and afford its students an opportunity to witness one of the great national events of the year. Its teaching facilities are excellent, and its requirements are those of the Southern College Association.

UNIVERSITY OF LOUISVILLE—MEDICAL DEPARTMENT.—We call the especial attention of medical students to the card of the University of Louisville in our present number. At this long-established and long-celebrated institution, the student will find the full equipment of a modern Medical College. The gentlemen who compose its faculty are practical physicians and surgeons of ripe experience, high professional and scholastic attainments, and are widely known as excellent instructors.

KENTUCKY SCHOOL OF MEDICINE.—Since this school has completed a large hospital adjoining the college, and made extensive improvements in laboratories, no school in the country is offering better hospital and laboratory advantages. All kinds of operations are performed in the presence of the class in an amphitheatre with every modern surgical facility, with seating capacity for 350 students, so constructed that each student can witness all the steps of the operation. The College is a member of the Association of American Medical Colleges, and conforms rigidly to the requirements of the Association. The record of examinations in Virginia shows that but one student from this school has been rejected.

SOUTHERN MEDICAL COLLEGE, ATLANTA, GA., was one of the first to adopt the now usual three years' graded course. Its success has been great, as its opportunities, in a large manufacturing city, with about a dozen railroads centering there, are many. Its seventeenth annual session, to begin October 1st, gives promise of even greater success than ever be-

fore. The Cotton States Exposition, in Atlanta, will give opportunity for the host of friends of the Faculty who may visit Atlanta to see for themselves the many advantages possessed by this institution. The Dean (Dr. Wm. Perrin Nicholson) formerly practiced in Richmond, and is yet a Fellow of the Medical Society of Virginia.

ATLANTA MEDICAL COLLEGE adopted the three years' graded course. Its standard has been high, as shown by the fact that not one of its graduates who appeared before the Georgia State Board of Medical Examiners last May failed to pass a satisfactory examination. During its 37th annual session there were 219 medical students, of whom 135 received diplomas of graduation which should speak well for the thoroughness of tuition. The Faculty aims to combine clinical with didactic teaching in such a manner as to impart to each student a thorough and practical knowledge of diseases and their treatment.

MEDICAL COLLEGE OF ALABAMA.—Founded 1859. After two sessions of brilliant beginning, it doors were closed by the war. Reopened 1868, and surmounted the usual difficulties, until each succeeding session for the past ten years developed increased force, so that success has been achieved and the future is full of promise. Important changes have been made, and valuable additions have been made to the building and equipment. In 1893, this college adopted the three year course, as called for by the Southern Medical College Association. During the past session students were registered from six or seven States. The genial winters of Mobile, the freedom of the city from winter epidemics, the refinement and culture of its citizens, etc., combine to make this a most excellent institution for learned work. Its faculty is composed of truly able professors.

MEDICAL COLLEGE OF OHIO (Cincinnati, Ohio).—This well-known institution opens its seventy-ninth annual session on September 26th, 1895. It was one of the first schools in the country to begin the three-year course, and has now taken another step in advance in requiring of all matriculates, from now on, attendance upon a *four*-year graded course of instruction. It claims to have been the first medical college in the country to establish a bacteriological laboratory, and all of its other practical departments are fully equipped and managed by competent demonstrators.

CINCINNATI COLLEGE OF MEDICINE AND SURGERY.—The announcement of the session 1895–6 has not reached us; hence we cannot do better than refer our readers to the advertisement,

and get them to write the secretary, Dr. F. V. Fitzpatrick, 136 Garfield Place, Cincinnatti, Ohio, for information.

THE COLLEGE OF PHYSICIANS AND SURGEONS OF BALTIMORE was inaugurated in 1872. In 1877, it absorbed the Washington University School of Medicine, which was established in 1827; so that this year's session (1895–'96) is the 57th of this institution. It has a new and capacious college building containing thoroughly equipped lecture-halls, physiological, clinical and pathological laboratories, dissecting-rooms and museum, which are situated in the centre of the city (Calvert and Saratoga streets), where most of the accident cases occur, and where clinical material abounds. The new Baltimore City Hospital is directly connected with the college buildings, so as practically to constitute one institution. This hospital, exclusive of the annex for the colored race, contains beds for 400 patients. A dispensary, curing for over 100 patients a day, is attached to this institution. Students of this school also have the facilities for study and practice afforded by the Baltimore City Almshouse and the Maryland Lying-in-Asylum. The Faculty have the privilege of instructing students at the Hebrew Children's, St. Joseph's, and the Maryland Hospital for the Insane. The students of the graduating classes have invaluable clinical advantages in the study of midwifery at the *Lying-in-Asylum*, which was established in 1874, and which is controlled exclusively by this school. The establishment of an obstetric clinic has introduced a much needed reform in the system of medical education in this country. The work of this institution has been largely extended by an out-door department.

In addition to the facilities mentioned, the College of Physicians and Surgeons has an arrangement with the Baltimore College of Dental Surgery (the oldest dental school in the world), by which the students of each school can avail themselves of such facilities for instruction as are possessed by either.

UNIVERSITY OF MARYLAND, (BALTIMORE).—The "Faculty of Physic" of this famous institution is composed of able practitioners in their respective chairs. It is one of the oldest medical institutions in the United States, and has long been popular with the profession of the South—many of its most distinguished professors having hailed from the South. An important claim of its curriculum is, that "every student, before graduating, has personal experience in practical obstetrics."

BALTIMORE MEDICAL COLLEGE is persuing a progressive policy in completing its plant, in establishing additional laboratories, in increasing clinical facilities, etc. Now it has a magnificent modern hospital. The past session was the most successful in its history—claiming 430 students representing 33 States, 2 territories, districts, and 9 foreign countries. The college is a member of the Association of American Medical Colleges, and deserves credit for its determined stand with regard to the high standard adopted for its students.

THE BALTIMORE UNIVERSITY SCHOOL OF MEDICINE has not yet forwarded its catalogue and announcement for the session of 1895–6. We have, therefore, to refer our readers to the advertisement and request them to address the Dean, Dr. E. W. Eilau, 1827 Madison Ave., Baltimore, for information.

THE WOMAN'S MEDICAL COLLEGE OF BALTIMORE steps boldly on the platform of the *required four years' graded course*, and, by the thoroughness of its curriculum, is assuming an enviable position in the list of medical colleges in this country. Its graduates demonstrate their education as doctors before Boards of Examiners, and their ability as general or special practitioners wherever they settle. The day is past when it is profitable to discuss whether woman can or cannot make a competent doctor—physician or surgeon. It only needs to add that the Woman's Medical College of Baltimore is a thoroughly provided, high-grade institution, where women students will receive the best of medical tuition.

MEDICAL DEPARTMENT OF COLUMBIAN UNIVERSITY.—The advantages offered for the study of medicine in Washington, D. C., are best appreciated by a careful perusal of the new catalogue of the Medical Department of the Columbian University. The facilities for practical work in the important branch of pathology and bacteriology are specially marked. This Department is in charge of Dr. Walter Reed, Curator of the Army Medical Museum and member of the Examining Board for the Army. All the laboratories of the school are open both day and evening. Columbian graduates have always taken a high stand in the Army and Navy examinations.

JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA.—We are glad to see, by the daily papers, that the Jefferson Medical College Hospital has received from the State of Pennsylvania an appropriation of $112,000. This will enable the Trustees to enlarge the capacity of the wards, put up new buildings,

and do full justice to the enormous out-patient clinic We hope the college and hospital will be kept in the central location where it has pursued its prosperous career for three quarters of a century. It is very desirable for the clinic that it should be in the heart of the most populous quarter of the city. With a class of 710 students and a four years' course, the old college shows herself worthy her ancient renown.

WESTERN PENNSYLVANIA MEDICAL COLLEGE.—This college justly attracts the favorable notice of journals and the profession. It has upheld the standard of requirements for admission and graduation of students since its organization, a few years ago, and has progressed with every advance of the College Association. It is not wonderful, then, that its success has been great, and that its alumni are everywhere taking the first rank in the profession. All of this is the more worthy of remark, because the college, located in Pittsburg, Pa., naturally has geographical control of all the western section of the State, and of portions of adjoining States; but its able Faculty have all along preferred the competition of merit rather than to claim the rights of geographical monopoly. It, of course, in keeping with the demands of the Association of American Medical Colleges, is a four years' graded course. For further particulars, we have to refer to the Annual Circular Announcement, which will be mailed to any address on request, by the secretary, Dr. T. M. T. McKennan, 524 Pennsylvania Avenue, Pittsburg, Pa.

MEDICO-CHIRURGICAL COLLEGE OF PHILADELPHIA.—This institu tion has an able Faculty, and is succeeding well. It stands on the three years' graded course basis, and requires no extra fee for graduation. Its hospital connections are ample for thorough instruction. It has a winter session of over seven months, with a preliminory session of about five weeks; and in addition, a spring term which begins about the middle of May.

UNIVERSITY OF THE CITY OF NEW YORK.—The Medical Department, while not a member of either College Association, demands a three years' graded course, stated in the advertisement. The excellence of the equipments of this institution, and the eminence of most of the professors in their special departments, beside their experience as teachers, well establishes its claim as one of the leading medical institutions in the country. Its clinical facilities are numerous, and its classes are always large.

BELLEVUE HOSPITAL MEDICAL COLLEGE.—Dr. Jos. D. Bryant changes the title of his chair to Anatomy and Operative and Clinical Surgery—two lectures on Anatomy, one on Operative Surgery, and one Surgical Clinic each week. Dr. Geo. D. Stewart, formerly a Demonstrator of Anatomy, will lecture under Dr. Bryant. Dr. John T. Erdman, in charge of dissecting-room, is Professor of Practical Anatomy. Drs. Winfield Ayers, Wm. G. Lusk, and John J. Rothwell, are Assistant Demonstrators. Dr. Reginald H. Sayre is Lecturer-Adjunct on Orthopædic Surgery. Dr. Austin Flint, Jr., is Professor of Obstetrics. Dr. Wm. H. Park is Instructor in Contagious Diseases.

THE LONG ISLAND COLLEGE HOSPITAL is the only Medical College in Brooklyn, a city of more than a million inhabitants. It is for this reason unsurpassed in its facilities for teaching practical anatomy, practical obstetrics, practical surgery, and practical medicine. The college, hospital, and dispensary, are all under one roof, and 20,000 patients are here annually treated. The Hoagland Laboratory is supplied with all the apparatus needed for teaching histology, pathology, and bacteriology. Brooklyn and New York have a very large number of hospitals, and the opportunities afforded graduates of Long Island College Hospital to obtain hospital appointments are very great.

COLLEGE OF THE NEW YORK OPHTHALMIC HOSPITAL.—This is the oldest post-graduate course in ophthalmology, otology and laryngology in New York, and the only one giving a State degree for post-graduate proficiency in ophthalmology and otology. The course combines clinical teaching with didactic lectures, and is very thorough. Clinical material in abundance is supplied by the out-patient department, about sixteen thousand patients being treated annually. An important addition to the teaching faculty recently made is a corps of quizmasters, who thoroughly drill students in all branches without extra charge.

THE BARNES MEDICAL COLLEGE has just finished a most successful session. Its growth has been phenomenal, standing eleventh in number of its students in the United States. The graduating class numbered 64. The general average of the class in their examinations was over 80 per cent. The institution has outgrown its quarters, and must increase the accommodations. The building will be on the corner of Thirtieth and Chestnut streets, a beautiful location, with the most pleasant of associations. Neither skill, pains nor money will be spared to make it all that it should be. The

faculty are competent and obliging. The prices, while not small, are not so high as to shut out young men whose financial means depend on their own personal exertions.

NORTHWESTERN UNIVERSITY MEDICAL SCHOOL.—The past record of this school is its guarantee for the future. It gave the first graded course of instruction in America; was one of the first to require three annual courses, and now requires four. The methods of teaching are thoroughly modern. Very great care is given to clinical drill in small subdivisions of the class. The professors of chemistry and physiology are paid for their entire time. All surplus funds are expended in improvement of the buildings and equipment of the college.

CHICAGO POLICLINIC AND HOSPITAL.—The rapid growth and advance-ment made by this institution in the last few years as a clinical school for practitioners of medicine is undoubtedly due to the never-tiring energy of its well-known faculty, who are, by careful and personal attention, endeavoring to make it the leading school of its kind. Practitioners who appreciate the advantages to be obtained by an entirely practical course in all the branches of medicine, including a most complete laboratory course, will do well to investigate the unequalled advantages offered by this institution.

POST-GRADUATE MEDICAL SCHOOL OF CHICAGO.—The phenomenal success of this school is attributable to its unequalled clinical facilities; its advanced and comprehensive curriculum; its large working faculty; its continuous course throughout the entire year—giving its very best each day. The climate of Chicago during the summer, with its lake breezes, is proverbial, makes it particularly desirable for physicians from the South. Experienced teachers fill each department throughout the entire year.

NEW ORLEANS POLYCLINIC.—The value of this institution, as recog-nized by Southern practitioners themselves, is shown by the fact that fully 12 per cent. of those attending one term return for the second. We are glad to see this Polyclinic so liberally encouraged by Texas practitioners. Other States well represented by matriculants, 1894, were Florida, Alabama, Mississippi, Louisiana, Arkansas, etc. This post-graduate school has free access at all times to the wards of the great Charity Hospital of New Orleans, whose wards are constantly filled—over 9,000 free patients having been treated in its wards during the year. The Faculty is an able one—each one desiring to be of the greatest possible assistance to the matriculate.

NEW YORK POLYCLINIC AND HOSPITAL.—This pioneer institution, so far as America is concerned, has kept pace with every advance in the art of teaching practitioners. Its Faculty include many of the ablest of Southern practitioners and teachers, and thus has a special attraction for Southern practitioners. Every lecture is a clinical one. Matriculants, of course, can select their own special classes, and thus follow the professors or their assistants in their visitations to hospitals, etc. The system of instruction is so generally appreciated by the practitioners who fill the classes that it has become necessary to keep a large corps of assistants for each department to give personal attention to the wants of the student. We have never known a practitioner to attend the New York Polyclinic that did not return home feeling amply repaid for the time and money spent.

Medical Practice Laws of the Several States.

The following are the chief points in force July 1st, 1895, in most of the States and Territories, compiled from various sources. Where the laws are not correctly reported, we invite correction:

ALABAMA.—Diploma not recognized. Must obtain license after examination by either the State or a county medical examining board. State board elected by Medical Association of State of Alabama; each county board by its county medical society. County board license entitles holder to practice elsewhere in State. State Health Officer is Dr. Jerome Cochran, Montgomery, Ala.

ARIZONA.—To register unrevoked diploma of a lawful college with county clerk is all that is required.

ARKANSAS.—Diploma not recognized. Must pass examination before the State or a county examining board.

CALIFORNIA.—One of three State medical examining boards —regular, homœopathic and eclectic—must pass upon the college granting and genuineness of the diploma of the holder, or the board selected issues certificate only after satisfactory examination. Dr. C. C. Wadsworth, San Francisco, Secretary of Regular Medical Examining Board.

COLORADO.—Diplomas recognized only from a school requiring preliminary entrance examination, a three years' course of at least twenty weeks each in three separate years, and which instructs in all usual branches, including hygiene and medical jurisprudence. Fee, $5. In lieu of diploma, applicant must appear in person at a regular quarterly

meeting of the State Board and show that he has been a practitioner for ten consecutive years. Other physicians applying must be examined by the State Board on usual branches, except therapeutics. Fee, $10. Dr. J. M. Hall, Denver, Secretary.

CONNECTICUT.—Register diploma of reputable college recognized by either the regular, homœopathic or eclectic State medical society; fee, $2; or, if not a graduate, the certificate of examination held by a committee of five, appointed by State Board of Health from the State Society, representing the school of practice desired by the applicant; fee, $10. Dr. C. A. Lindsley, New Haven, Secretary State Board of Health.

DELAWARE.—Two Boards—organized July, 1895—of medical examiners, representing the regular and the homœopathic schools, respectively. Examination required. Chief Justice and chairman of each board constitute the "Council of Medicine" to issue license to those passing required examination. Practising without such license, fine $500, or not over one years' imprisonment.

DISTRICT OF COLUMBIA.—Endorsement of diploma or examination of candidate by committee of District of Columbia Medical Society.

FLORIDA.—Diploma not recognized. Certificate of examination by State or a district medical examining board required.

GEORGIA.—Diploma not recognized. Must pass examination by the State Board of Medical Examiners.

IDAHO.—Record diploma at county seat.

ILLINOIS.—State board of health is authority. A medical graduate simply registers diploma for verification and pays $5. If not a graduate, he shall submit to examination by Board and pay $20. Board has power to revoke certificates given parties guilty of unprofessional conduct. Dr. Geo. W. Scott, Chicago, Secretary.

INDIANA.—No examining board. Register diploma in county clerk's office. Dr. Chas. M. Metcalf, Indianapolis, Ind., Secretary Board of Health.

INDIAN TERRITORY.—Laws suited to three sections: (a) *Cherokee Nation*—Examination by board of examiners; (b) *Choctaw Nation*—Board of examiners' certificate; (c) *Creek Nation*—Annual license fee $25.

IOWA.—Certificate of diploma from college in good stand-

ing; or, if not a graduate, he must pass examination by the State Board of Health.

KANSAS.—Register diploma or certificate of qualification from State or some county medical society.

KENTUCKY.—State Board of Health issues certificate on recognition of diploma.

LOUISIANA.—Diploma from "any medical institution of credit and respectability," endorsed by the State Board of Health. Dr. Hy. S. Cocrain, New Orleans, Secretary.

MAINE.—No legal requirement. An act to regulate the practice of medicine was passed 1887 by the Legislature, but vetoed by the Governor.

MARYLAND.—Diplomas confer no right to practice, but applicant for examination by the State Board of Examiners must have attended college requiring three years' course. Dr. W. F. Lockwood, Baltimore, Secretary.

MASSACHUSETTS.—No restriction law.

MICHIGAN.—No State Board of Medical Examiners. Any one with a diploma can practice. Dr. H. B. Baker, Lansing, Secretary of State Booard of Health.

MINNESOTA.—Examination by State Board of Medical Examiners on usual branches required. Applicants must be graduates of colleges requiring three years' courses. Diplomas confer no right to practice. All graduates after 1898 must have attended four courses of not less than six months each. Dr. Thos. McDavitt, St. Paul, Secretary.

MISSISSIPPI.—A certificate from or examination by State Board of Health. Diplomas confer no right to practice.

MISSOURI.—Examination by State Board of Health or a certificate issued by the Board upon diploma of a legally chartered medical institution of good standing. Dr. Willis P. King, Kansas City, Secretary.

MONTANA.—Examination by State Board of Medical Examiners; a certificate upon the diploma of a reputable medical college; or ten years of practice. (Those who graduate after July, 1898, will have to submit proof of having attended four courses of lectures of not less than six months each.)

NEBRASKA.—No Board of Medical Examiners; but the State Poard of Health grants license upon the diploma of a "legally chartered medical institution in good standing," as declared in Section 8 of Act of July, 1891. Three years'

lecture course necessary. Dr. T. D. Haldeman, Ord, Secretary State Board of Health.

NEVADA.—Register diploma granted by "some regularly chartered medical school."

NEW HAMPSHIRE.—No law.

NEW JERSEY.—License after examination by the State Board of Medical Examiners. Diplomas confer no right to practice.

NEW MEXICO.—Examination by the Territorial Board of Medical Examiners (consisting of four regular, two homœopathic, and one eclectic, appointed by the Governor to serve two years). Examinations not required of graduates of regular medical colleges. Dr. W. R. Tipton, Las Vegas, Secretary.

NEW YORK.—Three separate State Boards, of seven members each, representing respectively the Medical Society of the State of New York, The Homœopathic Medical Society of the State of New York, and The Eclectic Medical Society of the State of New York. Applicants must be more than twenty-one years of age; must present certificates of moral character, signed by at least two physicians in good standing; must give evidence of having received a good primary education; must have studied medicine not less than three full courses, in three different academic years, in a registered medical school; must have received the degree of Bachelor or Doctor of Medicine from a registered medical school, or a diploma or license conferring full right to practice medicine in some foreign country. Examinations, required of all others, are held September, January, April, May, and June at New York, Albany, Syracuse, and Buffalo. Fee, $25. Dr. M. J. Lewi, New York, Secretary of the Regular Board.

NORTH CAROLINA.—License from the State Board of Medical Examiners after examination. Board meets annually at time and place of meeting of North Carolina Medical Society. This Society elects Board of Examiners. Diplomas confer no right to practice. Dr. L. J. Picot, Littleton, Secretary.

NORTH DAKOTA.—Similar to North Carolina.

OHIO.—Diploma from a reputable medical school or certificate of qualification from State or county medical society.

OKLAHOMA.—Examination by the Superintendent of Public Health, or a license from him upon a medical diploma.

OREGON.—Examination by State Board of Medical Examiners (composed of three regular physicians, one homœopath, and one eclectic), all appointed by the Governor. Examinations held in January and July of each year. Fee, $10. Board has power to revoke licenses for "unprofessional conduct." All practitioners licensed before 1895 are to be registered. Dr. B. E. Miller, Portland, Secretary.

PENNSYLVANIA.—Three State Boards of Medical Examiners, composed of seven members each, appointed by the Governor, representing respectively the Medical Society of the State of Pennsylvania, the Homœopathic Medical Society of the State of Pennsylvania, and the Eclectic Medical Society of the State of Pennsylvania. Requirements for applicants similar to those required by the New York Boards. Two examinations held each year. Dr. Jas. W. Latta, Philadelphia, Secretary.

RHODE ISLAND.—No legal requirement.

SOUTH CAROLINA.—Examination by State Board of Medical Examiners on usual branches. Diploma from any medical college must be registered. Fee, $5. Dr. C. F. McGahan, Aiken, Secretary.

SOUTH DAKOTA.—License after examination by the State Board of Health. Diplomas confer no right to practice.

TENNESSEE.—License from the State Board of Medical Examiners upon diploma of a medical college in good standing, or after examination if not a graduate.

TEXAS.—License from the District Board of Medical Examiners. Diplomas confer no right to practice.

UTAH.—License after examination by the Territorial Board of Medical Examiners. Diplomas confer no right to practice.

VERMONT.—Registration of a diploma endorsed by one of the Boards of Medical Censors, or a certificate of examination from one of the Boards if not a graduate.

VIRGINIA.—License issued only after examination by the State Board of Medical Examiners. This Board is composed of twelve regular practitioners nominated by Medical Society of Virginia, and two homœopaths nominated by the Hahnemann Medical Society. Fee, $5. Meets first Tuesday of each May, and in Autumn during the week and at the place of meeting of the Medical Society of Virginia. Dr. Benj. Harrison, Richmond, Secretary. Diplomas confer no right to practice.

WASHINGTON.—Similar to Virginia.

WEST VIRGINIA.—Examination by the State Board of Health, or a diploma from a reputable medical college.

WISCONSIN.—Endorsement of diploma by the censors of either the State or county medical societies.

WYOMING.—Diploma to be recorded with registrar of deeds.

Medical Society of Virginia.

The Announcement of the Twenty-sixth Annual Session, to be held in Wytheville, Va., beginning Tuesday night, September 3d, 1895, has been issued by the Executive Committee. It promises to be a session of unusual practical interest in the way of papers, etc. Besides the Annual Address to the Public and Profession, by Dr. Lewis G. Pedigo, of Shawsville, Va., the Address of the President, Dr. Robert J. Preston, Medical Superintendent of the Southwestern Hospital for the Insane, at Marion, Va., and the papers on the subject selected for general discussion—The General Practitioner; His Duty to the Profession, to Himself, and to Society—by the leader, Dr. Henry M. Patterson, of Staunton, Va., and Dr. B. C. Keister, of South Boston, Va., papers will be presented by the following gentlemen, but not necessarily in the order here given:

The Old Virginia Doctor, by Honorary Fellow Dr. John Herbert Claiborne, of Petersburg, Va.

Vesical Calculus in Females, by Dr. Z. V. Sherrill, Bland C. H.

Laparotomy, with Report of Cases, by Dr. James N. Greear, St. Paul.

Strychnia as a Heart Tonic, by Dr. C. K. Kernan, Lebanon.

Convulsions, by Dr. W. S. Sayers, Wytheville.

Treatment of Cholelithiasis, by Dr. George Ben. Johnston, Richmond.

Pelvic Inflammations, by Dr. J. W. Long, Richmond.

Uric Acid as a Gynæcological Factor, by Dr. T. W. Simmons, Martinsville.

State Provision for Epileptics, by Dr. Wm. F. Drewry, Petersburg.

Obstruction of Bowels, by Dr. Hugh M. Taylor, Richmond.

Puerperal Sepsis, by Dr. Paulus A. Irving, Richmond.

Seventeen Operative Cases of Chronic or Relapsing Appendicitis, with One Death—Remarks, by Honorary Fellow Dr. Hunter McGuire, Richmond.

Varicocele, by Dr. B. C. Keister, South Boston.

The Galvanic Current in the Treatment of Pelvic Pain, by Dr. J. Allison Hodges, Richmond.

Paper by Honorary Fellow Dr. Joseph Price, Philadelphia, Pa. Title to be announced.

Abscess of the Liver in Children, by Dr. R. M. Slaughter, Theological Seminary.

A Long Survival of Injury of the Spinal Cord in the Cervical Region, by Dr. James L. Kent, Bertha.

Pathology and Treatment of Gonorrhœa, by Dr. Charles M. Blackford, Lynchburg.

The Symptomatology, Etiology and Treatment of Endometritis, by Honorary Fellow Dr. George Tucker Harrison, New York.

A Case of Cerebral Trauma, Indistinct and False History—Remarks on Diagnosis and Treatment, by Dr. M. J. Payne, Locust Grove.

Eye Troubles in Their Relation to Diseases of Other Organs, by Dr. Jos. A. White, Richmond.

Pyæmia and Septicæmia in their Surgical Aspects, by Dr. J. McFadden Gaston, Atlanta, Ga.

Rigid Os, by Dr. D. Mayer, Charleston, W. Va.

Some Recent Work in Gall-Bladder Surgery, by Dr. Edwin Ricketts, Cincinnati, Ohio.

The Committee of Arrangements, Dr. Chas. W. Gleaves, chairman, ably assisted by Dr. J. T. Graham—both of Wytheville, Va.—has done all in its power to insure a pleasant and profitable session. The ladies of Wytheville, we understand, will tender a banquet to the Society and its guests—including the ladies accompanying the doctors, of course—on Thursday night.

Railroads in Virginia have generally agreed to one and a third fare during the week of the Society—good for Fellows, Delegates, those attending the Medical Examining Board of Virginia, etc. But as it is impossible to secure uniform rates, all parties interested are cautioned that they should, *as promptly as possible*, inquire of their depot agents as to special rates from their respective depots, so that, if the agents have not received special instructions, they may have ample time to inquire into the matter and get rates before the time of meeting.

Hotel per capita daily rates have been secured as follows: Fourth Avenue Hotel, $1.60; Hancock House, $1.50; Virginia House, $1.50. (These three hotels are in the centre of the city, and about four blocks from the Hall of Meeting.) Boyd Hotel (at the depot, half a mile from the city),

$1.75. Private boarding houses from $1.00 to $1.50 per day. These rates are for *all* who attend the meeting, including the families of the Fellows, Delegates, etc. A committee of local physicians will meet the trains and escort the Fellows, Delegates, etc., to their homes and boarding houses.

Applications for Fellowship should be solicited by every member until every worthy doctor in his section is secured as a Fellow of the Medical Society of Virginia. Blank Application Forms can be procured in any desired quantity by addressing the Secretary.

We are glad to learn that the local newspaper of Wytheville (which is usually a semi-weekly) will be issued daily during the session of the Society, so as to give full reports of the session. We trust doctors all over the State will show their appreciation of such enterprise, intended especially for their benefit, and subscribe for enough copies to make the reports serviceable for the profession.

Letters intended for the Recording Secretary, Dr. Landon B. Edwards, until September 1st, should be addressed to Richmond, Va.; after that date, to Fourth Avenue Hotel, Wytheville, Va.

Prize Essays---Medical Society of Virginia.

Through the continued generosity of three of the Honorary Fellows of the Medical Society of Virginia, two prizes aggregating $300 in cash are to be awarded during the session of the Society. All essays in competition must be in the hands of the Recording Secretary (Dr. Landon B. Edwards, 106 West Grace street, Richmond, Va.,) by August 17th, 1895, in order that he may turn them over to the respective committees appointed for examination of each. Each essay should indicate on its title-page the prize for wlich it is sent in competition. Of course the committee resrrves the right to say whether any of the essays is worthy of a prize. The prizes offered are as follows:

(*a*) Dr. Hunter McGuire's prize of One Hundred Dollars for the essay on "*The Present Status of Serum-Therapy*"—open to members of either of the State Medical Societies of Virginia, West Virginia, or North Carolina.

(*b*) Conjoint prize of Drs. Joseph Price, of Philadelphia, and Herbert M. Nash, of Norfolk, of Two Hundred Dollars for "*The History of Surgery and of Surgeons in Virginia*"—open only to Fellows of the Medical Society of Virginia.

Mayor Swift's Insult to the Chicago Profession.

A meeting of the Doctor's Club of Chicago was held June 28, Dr. John H. Hollister presiding, to discuss the deposition of Dr. Arthur R. Reynolds from the Commissioner of Health of Chicago, and the appointment by Mayor Swift of "an ex-alderman without any sanitary or medical training to this important position." Dr. Doering spent three months in learning the desires of the profession, and found that fully nineteen-twentieths desired the retention of Dr. Reynolds. He has made the most satisfactory health officer in the history of the city. The transportation companies, the clothing men, the packers, and every class of men with whom the Commissioner had had business through his department, were unanimous for his retention. Mr. Swift, before his election as mayor, said he was heartily in favor of the retention of Dr. Reynolds, and would retain him should he be elected mayor. "I believed then," said Dr. Doering, "that the present mayor was a man of his word. I hope no one will embarrass me by asking what I think of him now."

The position of Dr. Doering was endorsed by all the speakers, among whom were Drs. M. P. Hatfield, Denslow Lewis, W. F. Coleman, J. E. Stubbs, —— Webster, T. B. Schwartz, M. H. Cozier, etc., and by a unanimous rising vote.

The remarks of the speakers were frequently applauded, and the greatest enthusiasm was evinced in the denunciation of the mayor and his appointees, notwithstanding the majority of the Club present were Republicans. It was an insult to the medical profession which was the cause of this indignation meeting—the present *Board of Health of Chicago* being composed of a dealer in flour, another in axle grease, and another engaged in real estate business.

The Southern Railway,

Formerly known as the Richmond and Danville or Piedmont Air-Line, has a page advertisement in this journal which should be of service to practitioners and their patients coming North or going South. To all who have travelled the several routes, it is the preferred line from Washington or Richmond to Atlanta, Birmingham, etc. Its connections extend to New Orleans, and a movement is on foot to run its magnificent trains directly through to San Francisco by way of the Southern Pacific Railway, which now has a terminus in New Orleans.

Congratulations to Dr. Llewellyn Eliot.

As the "journal publishing the proceedings" of the Medical and Surgical Society of the District of Columbia, we take great pleasure in giving space to the appended resolutions. We wish also to give prominent mention of the fact that Dr. Llewellyn Eliot, of Washington, D. C., was the first American physician, as stated in one of the resolutions, to employ *vaccine serum in the treatment of variola.* We shall hope to have a report from him on the subject:

"At a meeting of the Medical and Surgical Society of the District of Columbia, held Monday, May 13th, 1895, the following resolutions were adopted:

"*Resolved*, That the Medical and Surgical Society hails with pleasure the return of Dr. Llewellyn Eliot into our midst, and heartily commends his devotion to the interests of humanity as physician-in-charge of the Small-pox Hospital during the recent epidemic, as an example of professional heroism and worthy of emulation.

"*Resolved*, That this Society congratulates Dr. Eliot upon being the first American physician to employ vaccine serum in the treatment of variola, and expresses the hope that his pioneer work may serve to furnish us with an efficient agent in the management of this loathsome disease.

"*Resolved*, That a copy of these resolutions be transmitted to Dr. Eliot and one copy to the journal publishing the proceedings of this Society."

Mississippi Valley Medical Association.

Dr. F. C. Woodburn, Secretary etc., of Indianapolis, Ind., writes: The arrangements for the twenty-first annual meeting of this association are about complete (Detroit, Mich., Sept. 3rd, 4th and 5th, 1895.) In response to the general invitation sent out in May, many letters are being received daily by the Secretary. These letters are largely acceptances, and the outlook for the Detroit meeting in September is indeed bright. A number of excellent papers have been already received, and the scientific treat in store for those attending the meeting will amply repay them for the trip. The profession of Detroit promise a most delightful week socially; the ladies are especially urged to attend the meeting, and by their presence add to the enjoyment of the social pleasures. There is no more delightful season in which to visit the picturesque city of Detroit than the late summer—located within a short distance of many beautiful river and lake resorts, making it possible to arrange

some very pleasant side trips. Lay aside your professional burdens during the first week in September, go with your family to Detroit, enjoy the intellectual feast during each day, and in the evening hours partake of the bountiful hospitality which the profession and good citizens of the city will extend to you.

"Physician, Heal Thyself"

Is the title of Dr. Joseph Price's communication to the July number of the *American Gynæcological and Obstetrical Journal.* It seems that Dr. Richard C. Morris, Physician-in-charge since Dr. Price resigned, published "The mortality record of the Preston Retreat during Dr. Price's residency there." Dr. Price's reply is in his characteristic earnest style when he knows or believes himself misrepresented. His words have not any appearance of a double meaning. They remind us of the story, "Who struck Bill Patterson?" Reprints of this communication have been made, so it would be occupying unnecessary space to undertake to reproduce the article. It is unfortunate that Dr. Morris did not write some explanatory notes as he printed the "mortality record," as such notes might have saved him from the imputations that a disinterested profession may cast upon his motives. No figures can be so misused as statistics.

The Medical Examining Board of Virginia

Will hold a session for executive work, and to prepare questions for examination of applicants for license, in Wytheville, Va., Monday night, September 2d, 1895. Examination of candidates will begin promptly at 9 A. M., Tuesday, September 3d, and will continue as usual through two days. It is especially desired that every member of the Board will be present at this session, and will sacrifice enough of his pleasure to examine the papers promptly, so that those applicants who may pass a satisfactory examination may join the Medical Society of Virginia while in session Thursday. For fuller notice, we refer all interested to the one-page advertisement of the Board of Medical Examiners on the colored page on the reverse side of the page giving the Index to Advertisers, etc.—advertising page 34.

Drs. Charles M. Shields and L. C. Bosher, of Richmond, Va.,

Are on a pleasant European trip, and will return in time to resume their professional and professorial duties in the Medical College of Virginia in September.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 6. WHOLE NUMBER, 258.

RICHMOND, SEPTEMBER, 1895.

Original Communications.

Art. I.—The Indications for and Technique of Forceps Delivery.*

By JOHN F. WINN, M. D., of Richmond, Va.,

Lecturer on Clinical and Operative Obstetrics in University College of Medicine; Visiting Obstetrician to Virginia Hospital; Fellow of the American Association of Obstetricians and Gynæcologists; Editor and Proprietor of "Richmond Journal of Practice;" Corresponding Secretary Medical Society of Virginia, etc

It is to be regretted that, with all the progress of operative obstetrics, some members of the profession are yet inclined to the belief that to the forceps, *per se*, belongs much that they would class under the term meddlesome midwifery.

In this paper, the effort will be to show that the forceps is an instrument of far more good than of harm, if properly used at the right time. The acme of conservatism would seem to be in resorting to instrumental assistance as soon as the danger signal for help has been recognized. The sooner we accept the fact that *unnecessary* delay (in the hope that Nature will overcome well-defined obstacles to safe delivery) places the woman in serious peril, the sooner will there be a reduction in the cases of traumatized parturient canals and the septic conditions resulting therefrom.

Statistics support the statement accepted by a majority of

* Read before the Richmond Academy of Medicine and Surgery, June 25th, 1895.

obstetricians, that the dangers attending the parturient act are not so much dependent upon the instruments as upon the negligence of the doctor in not availing himself of their help before it is too late to avert the very accidents which he and the laity ignorantly, and without cause, attribute to operative aid. Especially does this remark apply to the evil effects of prolonged pressure on the maternal tissues, ending, possibly, in inflammation and all the horrors of puerperal septicæmia.

That lacerations and contusions of the birth-canal do indeed occur as the result of an incautious and unskilled use of the forceps, must be admitted; but is it fair to place the blame upon the *instrument*, when the operator, in many instances, is but a novice, or, if strengthened by "years of experience," proceeds to effect delivery with criminal haste, simply that he may be relieved from the tedium of watching and be free to visit others in waiting?

These general premises being agreed upon, it remains to recall somewhat in detail the general and special indications for the forceps, and, particularly, the elements which contribute to its safe use.

The Signals for Forceps Delivery.—The attempt will not be made to recall all the indications for forceps; but in general terms it is agreed that—(1) any inability on the part of the expulsive forces of the mother to overcome the obstruction to delivery, and (2) any condition demanding rapid delivery, either in the interest of the mother or the child, demand the use of the forceps.

The dilatability of the os and the state of the membranes are, of course, important conditions, especially in the application of "high" forceps. The old rule was to wait until the os was three-fourths dilated, but now the actual size of the os is of less value than its dilatability. If the blades were applied before the bag of waters had ruptured and retracted, it is easy to see that premature detachment of the placenta might result. It is of equal importance, too, that a clear and definite knowledge shall be had of the exact position of the head; and to this end, it is held by

some that when possible to do so, our diagnosis should be verified by the finding of one ear, which, if found, will be of additional value to the other obstetric points on the fœtal head. I need hardly suppose that any one would attempt to apply forceps in high operations until the head had engaged.

According to some good obstetricians, the indication for low forceps is that condition when the second stage has lasted for two hours, and after comparing the progress already made with the advance yet to be accomplished, it shall seem probable that the natural and unaided forces of the woman will not complete delivery *within the next hour*, then we are told that the prognosis for both the mother and the child will be better if the case is not longer left to nature. While those who are governed by this condition, even with its most liberal construction, may consider themselves warranted by acting accordingly, yet, we believe that the premises and conclusions therefrom are stated too dogmatically to be always accepted in practice.

Other indications, regarded by some as the proper time for help, are a thin, reddish discharge at the vulva, and an increasing caput succedaneum; but since they are but the effect of continued pressure, their value is greatly lessened because of the lapse of time and of the inevitable injury that must have been done by the very condition of which they are only the result. For these signs to avail any trustworthy evidence for instrumental help, they must be recognized early, and the warning given by them must be heeded promptly.

But, after all, so diverse is the nervous and muscular development of women, that no hard and fast rules can be laid down that can be applied to every individual case. Each must be studied on its own merits in view of the general conditions above mentioned. As has been said, this is a question that cannot be determined by hours or minutes. It is agreed, however, that "so long as the labor pains progress with that rhythm which goes hand in hand with an abundant supply of vaginal mucus, and with an elastic

perineum, there need be no immediate fears of failing uterine action;" but with equal emphasis are we reminded that just as soon as the labor pains lose their rhythmical expulsive character, and, as a natural result, the child's head fails to make its usual progression and recession, thereby creating for itself the classic term "fixed head," then no longer is there any doubt that the forceps should be *applied at once.*

Whatever doubt may have existed prior to this time should now be cleared away; for it is easy to see that a further delay will, by continued pressure of this non-receding head, result in venous stasis and œdema of the maternal tissues, giving rise to a hot, dry, and bruized vagina, which, in turn, is just the condition to favor rigidity of the perineum with its almost inevitable laceration.

It is also easy to comprehend how a torn perineum, whose tissues are thus boggy and contused, is in a state least favorable for repair, although immediate perineorrhaphy be performed with every detail of surgical antisepsis.

So highly suggestive of instrumental help is a "fixed head," some one has proposed that the words "A Fixed Head for Forceps" should be written over the doorway of every obstetric class room. It is the most specific of all signs for the use of the forceps, and its warning should be heeded with all possible promptness. The very fact that it does not recede is *prima facie* evidence that the uterus is in a state of *retraction;* and we know that a dry and retracted uterus is symbolic of exhaustion; and that uterine exhaustion means that there is not sufficient *vis a tergo* to overcome the resistance to delivery.

The Direct or the Indirect Application?—Shall the blades be adjusted directly to the sides of the head, or shall they be introduced with reference to the sides of pelvis and left to grasp the head as best they may? On this point obstetricians differ. Some apply the blades with reference to the sides of the pelvis in all cases, while others adjust them directly to the child's head in low forceps and to the sides of the pelvis in high forceps. While the direct application to the head may not always be the easier method, yet it is

conceded to possess two eminent advantages over the indirect method to the sides of the pelvis.

When accurately applied to the head, so that the parietal bosses are embraced in the fenestræ of the blades, the forceps disturbs in the least possible degree the mechanism of labor. In addition, this direct method subjects the child's head to the least amount of injury—a very important consideration, when the safety-line of compression is dependent upon the diameter squeezed. But when applied in the indirect way, it is easy to see that each parietal boss and its corresponding ear may not always be found projecting between the blades. If, in this application, the oblique diameter is the one compressed—*i. e.*, from one side of the brow to the opposite side of the occiput to even one-half inch—we are told to expect intra-cranial injury. This, in addition to the possible laceration and contusion of the child's face.

Then, with the knowledge that the bi-parietal diameter admits of compression to the extent of one-half inch, and possibly more, without harm, the interests of the child would, other things being equal, surely dictate the direct method as the one of choice, and that the indirect method of applying the blades to the sides of the pelvis is to be practiced at all times with the greatest caution.

Another point in favor of the application to the sides of the head, is the least risk of injury to the maternal tissues. When thus accurately applied, a little reflection will show that the part in firmest contact with the maternal tissues is the parietal boss and not the blade; and, therefore, the blade, in safe hands, should not be held responsible for all injuries to the mother's soft parts. For the same reason, the thickness of the blades have little to do with increasing the diameter of the presenting part, for, as a matter of fact, the diameter is diminished in proportion as it is compressed by the forceps.

Traction.—Next in importance to the adjustment of the blades, is the manner of drawing upon the handles. Traction is considered the most important factor in forceps de-

livery, and demands the constant care of the operator. Just when to pull, and how much force to be applied, and the proper direction of this force, are points demanding the closest attention. Those who pull with Herculean strength and without the slightest regard for the proper line of traction, seem to forget the mechanism of labor. They not infrequently exhaust their efforts by pulling in a straight line, thus bringing the head directly *against* instead of *under* the symphysis. According to Reynolds, "the ideal line of force is always that which holds the head in contact with the anterior pelvic wall, and but slightly applied to it." When in doubt, it is sometimes a good plan to either let go the handles or hold them so loosely that they will indicate by their own movement the proper line of traction.

We should remember that the ease of extraction by forceps is proportionate as the advancing head is kept in line with the axis of the parturient canal; but this parallelism must not be maintained by the pendulum or swinging movement so often resorted to by inexperienced operators. There is little doubt but that this movement is largely responsible for much of the traumatism inflicted upon the mother's tissues, and for the opprobrium brought upon the forceps by those unskilled in its use.

The more nearly we imitate nature when bringing the head over the perineum, the fewer will be accidents to the pelvic floor and other bad results. It should also be borne in mind that traction, exerted in the proper direction at regular intervals and held as long as the unaided efforts in a normal delivery would define (about one minute), will seldom fail of its purpose. While this rule is opposed to the criminal haste sometimes practiced in delivery, it is nothing less than what should be our aim always, viz., to supplement what nature lacks in expulsive force; to extract with the pains; to let the head recede when inclined so to do; to unlock the forceps when the pains are off, in order that the head may be relieved of continued pressure; and, above all, to see to it that the perineum of a primipara is not expanded in less time than nature would require to accomplish the same thing.

A factor of great value, and one often overlooked, is properly applied abdominal pressure by a skilled assistant, nurse or physician. It increases the *vis a tergo*, which is always more physiological than a *vis a fronte*.

Taking off the Forceps.—Some obstetricians keep the forceps on until the head is born. We do not think this is necessary. Our own practice is to remove the instrument when the occiput is well under the pubic arch, trusting to the "shelling-out" process between the pains for the complete delivery of the head.

High Forceps.—The difficulties of the high operation (forceps at the superior strait) are great, and, indeed, it may be hard to choose between it and version. The safety of the child would demand the direct application, but since it is rarely possible for the forceps to be applied with accuracy, the indirect method (blades to the pelvis) is the one generally adopted. It will be found easier in all cases to introduce the *anterior* (or right) blade *first*. This is one exception to the general rule as to choice of blades. By not passing the right blade first, one would be annoyed greatly by the shank of the posterior (or left) blade. Here is the special field for the axis-traction forceps. No other can supplant its adaptability. If the head has firmly engaged and does not descend into the pelvis no time should be lost to determine the obstacle to delivery before resorting to the forceps. If due to a contracted pelvis, it would be useless to attempt to pull the head into the pelvic canal. Hence, the rule generally accepted is that, "if the true conjugate diameter is less than three and three-fourths inches, with a normally developed fœtus at term, the forceps should not be used at all."*

"*Medium*" *Forceps.*—Until recently authorities classed all operations above the inferior strait as *high* forceps, but we are glad to note that Dr. Egbert H. Grandin,† of New York, limits the term "high" to those conditions when "the head is entirely above the brim and not engaged"; but for those

*Grandin.

† *Obstetric Surgery.*

conditions present, after the head has firmly engaged, showing that the greatest diameter has entered the pelvic inlet, he prefers the term "medium" forceps because the head is occupying a medium situation, and its arrest depends either upon disproportion between the head and the birth canal or a lack of uterine force to overcome the resistance present. Axis-traction forceps, as in "high," is indicated in "medium" operations. Necessarily the greatest caution must be observed to avoid injury to the maternal tissues. After the head has been brought to the pelvic floor, it is advised to take off the axis-traction instrument and apply the ordinary forceps to complete the delivery.

Forceps in Occipito-Posterior Positions.—Nothing calls for greater patience than occipito-posterior positions. Few will be the cases in which the forward rotation of the occiput will not occur in the presence of the two most important factors—strong uterine pains and a firm perineum. Yet, if one or both of these conditions be incomplete, the head is liable to remain in a state of *partial* rotation, but with the occiput looking more posteriorly than anteriorly, and forceps may be indicated. As in "high" forceps so in occipito-posterior operations it is easier to adjust the blades if the anterior or *right* blade be introduced first, and in that oblique diameter which will permit the grasping of the parietal bosses. Great care should be exercised not to interfere with the normal forward rotation of the occiput; and, to favor this movement, the practice of some is to unlock the forceps after each traction, so that the released head may be free to rotate. By no means should the attempt be made to force the occiput to the front by twisting the instrument. Nothing could be more culpable. Sometimes it is well to remove the blades altogether and later reapply them over the bi-parietal diameter; for the head may have partially rotated by the efforts of the natural forces to bring the occiput to the front.

Perhaps the most exasperating condition is the one in which the occiput, having failed in its forward rotation by natural and aided efforts, rotates to the hollow of the sac-

rum and remains persistently posterior. In such a condition the forceps should be delayed as long as possible, certainly until there are positive signs of exhaustion of the mother. If then instrumental delivery be resorted to, the blades are best applied in the direct way—to the sides of the head. "The line of traction should be directed backward until the perineum is fully distended by the head. Then, without intermission of traction, its direction should be gradually swept upward, until the small fontanelle appears at the fourchette, and the perineum retracts over the sub-occipital region; it should then be swept downward toward the floor, again without intermission of its force, until the chin appears under the arch."* I need hardly say that do what we may to preserve it, the perineum is likely to be extensively torn.

Forceps in Face Presentations should be delayed as long as possible. About the only time forceps may be needed to extract a face is when the chin is anterior and has been arrested *low* down. High application in face presentation is condemned. The easier method is the direct one to the sides of head. There is little danger to the mother, but there is exercise for caution to see that the tips of the blades do not injuriously compress the vessels of the child's neck.

In connection with face presentations, the late Dr. R. A. F. Penrose, of Philadelphia, suggested a new use for the forceps, or rather for one blade of the instrument. It is indicated only when the chin is *posterior* and the forward rotation of the chin is slow. According to Dr. Penrose, if one blade is introduced in such manner as to impinge upon the posterior cheek, it affords a point of resistance on which rotation rapidly takes place similar to the movement that should occur when the chin has reached the perineum. It is claimed for it to save much time and suffering.

Forceps to the Breech.—Since the introduction of Tarnier's axis-traction instrument, the danger of injuring the abdominal viscera of the fœtus, by the application of forceps to the breech, has been in great measure removed if the blades

* Reynolds.

are applied in the iliac or trochanteric diameter of the child's pelvis. This use of the forceps is, however, rare.

Forceps to the After-Coming Head has been warmly commended and as warmly condemned. If the usual manipulations for hastening head-last deliveries fail, then the forceps may be invoked to avoid positive danger to the child's life.

Asepsis and Antisepsis.—The technique of forceps delivery would not be complete without reference to obstetric asepsis. Indeed, it is the keystone of the arch made by obstetric surgery in the past few years. In securing this absolute cleanliness we must not forget, however, that many of the chemical agents, if employed too freely, may do harm by destroying the vitality of the tissues which we seek to protect. The general tendency of the day is toward simpler methods of securing this cleanliness. Boiled water, saline solutions, etc., are taking the place of some of the strong chemical compounds so ardently advocated by the over-zealous votaries of antisepsis.

Not alone is it necessary that the person of the accoucheur, nurse and other assistants, the lying-in woman, and all instruments and accessories shall be made surgically clean, but it is of equal importance that they *shall be kept clean* during the whole period of possible infection. Of what advantage is it for the accoucheur to rigidly practice every rule for asepsis, if, on his way to the bedside to make a vaginal examination, he puts his hands into his trouser's pockets, or turns a door-knob, or draws to the bedside a chair whose back is anything but clean. Or, again, of what use is it to sterilize your forceps at your office if they are to be conveyed to the patient's bedside in the ordinary obstetric bag, possibly the habitat of micro-organisms of every description?

Think what is gained by scrupulous cleanliness on the part of the doctor when he leaves afterward in closest contact with the puerperal woman an ignorant and careless negro attendant, whose finger-nails are in mourning with the accumulated filth from her own numerous private pa-

tients, whose lives may have paid the penalty of puerperal septicemia!

Without going into the details of antisepsis, I would call attention to one or two points: one is to protest against the conventional vaseline bottle so often found in the average obstetric bag; not for any special objection to vaseline *per se*, but for the reason that such a receptacle cannot be the acme of cleanliness after being carried from place to place and used in the ordinary way.

In its stead nothing is better than a 2 per cent. solution of creolin (2½ drachms to the pint). It serves every purpose of a lubricant, and is an efficient antiseptic.

If hospital sterilizers are not convenient, there is always to be found in every home tin vessels large enough for boiling all instruments in a one per cent. solution of common washing soda. These can afterward be submerged in a two or three per cent. of creolin solution.

Sponges should give place to sterilized gauze or absorbent cotton. Towels can be sterilized in the baking oven of any private family, or they can be boiled.

This whole subject can be epitomized in the words: *Clean doctor, clean patient, clean nurse, clean instruments, and accessories.*

As to the need for post-partum vaginal douches after forceps delivery there is a diversity of opinion, some contending that if the delivery has been conducted on thorough antiseptic principles post-partum douching is unnecessary. It might be better to give the woman the benefit of the doubt by using bichloride followed by plain sterilized water.

Finally, while I am strenuously opposed to the unnecessary or premature use of forceps, I am firmly of the opinion that true conservatism lies in the prompt use of instruments when there is no longer doubt of their necessity.

REFERENCES.

Lusk; Playfair; Reynold's Practical Midwifery; Grandin's Obstetric Surgery; Hirst's American System of Obstetrics; Herman's Difficult Labor.

Art. II.—Hydramnios, Twins, Miscarriage, Uterine Inertia, Hæmorrhage, Recovery—Remarks.*

By H. P. WENZEL, M. D., of Milwaukee, Wis.

Mrs. M., multipara, consulted me in January for relief from almost constant nausea and frequent vomiting, resulting from a commencing third pregnancy. She expected to be confined about the middle of July. Her health otherwise was good, and the various functions were normal. A few mild remedies were prescribed, her diet regulated, and the nausea and vomiting promptly subsided.

About the middle of March she called again. Her health in the meantime had been very good. But since a fortnight her abdomen had grown very rapidly, and was at this visit as large as it ought to have been at term. Appetite good, sleeps well, digestive and urinary systems function normally; there is no œdema, no dyspnœa, no circulatory disturbances, no headache. There is no causal indication which points to the prematurely large abdomen, unless it be a case of amniotic dropsy or twins. Yet, so far there were no factors to which such a condition could be imputed. She was advised to watch her dietary closely, and to have her bowels and kidneys act promptly.

Nothing further transpired until April 14th, when she called again. She suffered from dyspnœa, her heart was accelerated in action, her belly had assumed monstrous proportions, the abdominal walls were tense, glistening, shining, and the navel projected like a moderately large Bartlett pear. There was an enormous flood wave on succussion. The external genitalia were normal, the os high up posteriorly, and open to admit a finger; no fœtal parts could be made out. There was no œdema of the extremities or face, excepting a little swelling around both ankles during the day, which promptly subsided before the next morning. She could not lie on her back. The urine was free from albumen; uterine or fœtal motion could not be made out, nor could fœtal sounds or placental bruits be heard. She volunteered the statement that "for the past few weeks I felt no motion, while before that time the movements were lively and painful at times." She had done no hard work of any kind since her pregnancy began; had received no injury nor had any accident. She slept

* Read before the Brainard Medical Society, Annual Meeting, July 12th, 1895, and requested for publication by the Society.

"sitting," her appetite was good, her stools regular, and the urinary organs acted normally.

She was advised to keep quiet and take things easy. She was told that she would very likely miscarry soon—due to the rapid increase of the fluid in the membranes; that the fœtus or fœtuses—twins were suspected—had probably "drowned in their own water."

This condition continued until the 17th, at 5 P. M., when the abdomen had become more tense transversely; the tissues were stretched to their utmost; breathing was very laborious; there was considerable swelling of both feet, and the face was puffed somewhat. Indications pointed to approaching labor-pains. By 10 P. M., the pains, which had been slight, irregular and at long intervals, became stronger, more regular and prolonged. The abdomen had now become a hang-belly, and her breathing became easier; the epigastrium was relaxed. The umbilicus still projected. The membranes were tense, filled the vagina, and presented at the vulva.

The membranes were punctured at midnight, and a flood of liquid followed, inundating everything; the abdomen collapsed at once. At 12:30 A. M., two female fœtuses were delivered—one was dead, the other gasped a few times only. The first was small, dead, and had the appearance of a four-month's fœtus. Its umbilicus was twenty-four inches long and tuberous, containing ten tumors, each separate and varying in size from a hazelnut to a goose egg; they were filled with a straw-colored sero-gelatinous liquid. The other fœtus, about twice the size of the first, had an equally long cord, and was much more developed—about six months. Each had its own placenta, in opposite cornua uteri.

The uterus was now completely inert, and reached above the navel; this condition lasted nearly an hour, and was undoubtedly due to the previous over-distension. There was no hæmorrhage, until we had to remove the placentæ manually, when a spasm set in in the lower uterine segment, and for twenty-five minutes I was held a captive—my hand being held by a vise-like grip; yet a mass of blood was lost. The upper segment did not contract down until the spasm in the lower segment subsided, and then a frightful gush of blood followed. With extreme difficulty the uterus was forced to contract down—one hand being within the uterus, the other making counter-pressure through the abdominal wall, aided by the grip of the husband's hands over mine. This pressure had to be kept up for about an

hour. Every time the pressure was relaxed the uterus relaxed, and we were relieved only from our extreme anxiety, and from the imminent danger of fatal hæmorrhage, after a third dose, a teasponful each, of normal ergot had been given.

The amniotic liquid caught in a baby bath-tub measured three-and-a-half gallons, and the amount lost must have been fully as much more, for bedding, mattresses, carpet, floor, were deluged with it. Its color was a slightly green.

The mother was quite prostrated for a few days, and was considerably annoyed by after-pains. Otherwise, her puerperium was simple. Her appetite never failed. Temperature, never over 100° F.; pulse, not over 76 per minute. On the ninth day post-partum, her mammary glands became very painful and turgid with milk; they were considerably swollen. Camphor, dissolved in sterilized olive oil, was thoroughly applied, and in two days milk, swelling and pain vanished. Since then, her health has been excellent.

The larger fœtus weighed about one-and-three-quarter pounds; the smaller about a pound. Whether the tumors on its umbilical cord had interfered with its development, is an unsolved problem.

Now, what is hydramnion or hydramnios? The term is made up of two words: ὕδωρ, water, and amnion; hence, it is a dropsy of the amnion—an over-distension caused by excessive secretion of the fœtal membranes. It occurs once in about one hundred cases. When the quantity of liquid does not exceed a litre (over a quart), it is within physiological limits. Beyond the ordinary or usual quantity, it may reach a number of gallons. Hydramnios may develop rapidly or slowly; in my case it developed in a month, or or even less. In the acute form, miscarriage or premature labor usually terminates the gestation. Chronic cases may go to term and living children may be born; but the infants are generally small, weak, puny, or there is some deformity, some defect or vice of formation.

How is the amniotic liquor prepared, and by what organs? As amniotic liquid is present in small quantity, even in bird's eggs in process of hatching, and is relatively much larger in quantity in the amniotes, placental animals, mammalia, the liquid must be secreted by the placental fœtal

membranes, the umbilicus, the vasa propria of Jungbluth, and from the fœtus through and by its renal and tegumentary systems. There may also be transudation from the uterus into the fœtal membranes.

Circulatory disturbances and obstruction in either fœtus or mother, may also cause an excessive secretion of liquor amnii; hydramnios has a pathogenesis analogous to all other dropsies caused by impeded circulation.

In the fœtus, three etiological factors are accused of the causation of hydramnios: 1st, syphilis; 2d, malformation or vices of fœtal formation; 3d, twins.

In this case, syphilis can be wholly and completely excluded as a causal factor; nor was there anything or condition of the mother which might have engendered such a result—her health being excellent and her system free from dropsy of any kind until a few days before premature labor set in. But we have both *twins* and *malformation* of the *umbilical cord.* During the last twenty years of practice I have seen a *half score* of cases of *cord-malformation;* the tumors were from the size of a hazelnut to a goose egg, and in number from one to a dozen and more. In every one of these cases there was an exceedingly large quantity of liquor amnii, but none were so markedly excessive as in the case under consideration. Besides, in every infant born with the tumors on the umbilical cord, the child was either small, puny, weak, or there was a defect in its development—as spina bifida, cleft palate, hydrocephalus, deformed extremities, etc.

The great distension resulting from amnial dropsy expands the uterine walls to the verge of rupture, and the different muscular fibres, tissues, vessels and nerves are drawn out to the point of exhaustion, thus preparing the way for hæmorrhage. The sudden relaxation caused by discharge of the uterine contents which so long had continued, the expansion naturally leaves a void which the tired, overstretched tissues cannot at once fill. A period of paralysis or paresis is sure to follow; but so long as the placenta adheres firmly, the danger from hæmorrhage is slight.

The tissue-tonus is gradually restored; but with the irritation resulting by forcible detachment and removal of the placenta, an extreme reaction, a clonic spasm, the so-called hour-glass contraction, sets in, which allows the hæmorrhage to occur in the upper uterine segment, until the nervous equilibrium is again restored, and the clonic spasm yields to the natural tonic and normal uterine contractions. If, during this stage, we can master the trouble and follow up the advantage gained by proper manipulations, the victory will be easily won later on; but to lose here, at this stage, is to lose all! Uterine contractions must be closely and carefully watched after emptying the uterus, and especially so in over-distension resulting from excessive liquid within the fœtal membranes, and if there be a tendency to relax, the hand of the accoucheur must not let go the *corpus delicti uteri* until the danger from hæmorrhage is past and the safety of the parturienta is assured.

296 *West Water Street.*

Ichthyol to Abort Erysipelas.

Dr. W. H. DeWitt, of Cincinnati, says (*Lancet-Clinic*) he has treated eight cases of erysipelas—5 facial and 3 of lower extremities—curing them in about four days each.

℞ Ichthyol..... ʒiiss
Collodion flex..... ℥iss—M.

S: Apply every three hours—always commencing about an inch beyond line of demarcation between healthy and inflamed skin.

A great deal depends on the collodion: If good, it will not crack and peel off in a few hours. If it becomes loose and partially detached, remove at once and make fresh application. At no time should the surface be left exposed longer than possible.

Dr. Lewis A Sayre, of New York,

Has been elected an honorary member of the Société Belge de Chirurgie in acknowledgment of his great services to surgical science.

Art. III.—Outlines on Tuberculosis of the Lungs.

By R. L. HOWARD, M. D., University Station, Charlottesville, Va.

I shall attempt no elaborate treatise on phthisis-pulmonalis or tuberculosis of the lungs, but only propose to offer to the medical profession, in as plain and brief manner as possible, a little *mite*, that may or may not be accepted and added to the *armamentarium* of *ways and means* with which to oppose this most formidable of all the maladies to which the human race is heir. But before stating my views on indications and treatment, and to consider the subject in the regular or usual way, I invite your attention to a point or two in the nature, cause and symptoms, only a point or two that may be peculiar and differ a little from the views of most able and faithful writers on the subject. While I feel a great delicacy in differing with such men as Wood, Flint, Loomis and others, I must not forget the earnest injunction of my beloved teachers (now sleeping under the sod), viz., Jas. L. Cabell, John Stage Davis, and Henry Howard, of University of Virginia, and Pancoast, Dunglison, and Gross, of Jefferson Medical College, Philadelphia, for they enjoined and charged us not to believe thus and so because others did, but to study, reason, and test for ourselves, and then form our conclusions.

In considering the *nature* and *cause* and defining the peculiar tubercular diathesis (which as a predisposing cause is doubtless hereditary and in various degrees or intensities), they think and say "*it may consist essentially in a certain laxity of tissues* which leads to a *weakness* or *perversion* of *function;* so that, instead of well elaborated material for the purpose of nutrition, there is separated from the blood a peculiar product of the *lowest grade* of *vital force*, with the *tendency* to *degeneration fixed upon* it, which exists as *foreign matter* in the *midst* of *living structure.*

"It is possible that the blood itself may be in fault. The only defect, however, which has been shown to exist is a deficiency of red corpuscles, and this may be an effect rather than a cause," etc.

Just here it seems to me more reasonable to suppose that the *blood* is primarily and mainly in fault, having received its strumous or cheesy contamination by the hereditary transmission. As a matter of course, it has to convey the said strumous softness to all the *tissues* which it has to build up and keep alive.

This inherited weakness of blood, embracing a deficiency of red corpuscles and a tendency in its plasma to throw down a cheesy or strumous deposit, is important in both a prophylactic and curative point of view, as will presently appear.

Loomis and others found in the liquid effusions or tubercular deposits, under the *microscope*, lymphoid and epitheloid elements, and Prof. Koch, of Berlin, found in 1881 the rod-shaped bacillus, now considered the essential element of this disease. In the *Annual of Universal Medical Science* we find the broad statement that "tuberculosis can only occur in an animal by reason of a microbe (Koch's rod-shaped microbe) introduced into its system. Some authors, in adopting this view, have gone so far as not only to doubt the hereditary influence as from mother to offspring, but totally deny the possibility of any such influence as from father to offspring.

Now, while it is plain that the *germ* itself cannot be transmitted from father to offspring in conception, it is equally plain and certain that the *tubercular diathesis*, which constitutes the predisposing cause of the disease in question, is transmissible from either parent; and, after all, this question of transmissibility from father to child is of little practical importance, since the germ—if the developing cause—may be *introduced* from so many different sources, viz., from the mother's blood in gestation, or from her milk in nursing, from cow's milk, from beef or poultry of the market, or from the dust of dry sputa on the streets or floors.

Now comes a very important question, viz., *Will* the germ, when introduced into the system, develop the disease independent of any peculiar condition of said system? I for one should answer, No.

The question to which I have given more diligence, with years of close observation and cautious tests, than any and all others connected with this subject, for it is one of importance as viewed from either a prophylactic or curative standpoint, is, *What is the peculiar condition of the system which favors the development and progress of tuberculosis of the lungs when the germ is introduced?*

Microscopy and chemistry in the hands of scientific men are often valuable means for advancing science and deciding difficult questions, but where these cannot be brought to bear, another means is often available, viz., *long experience*, with close observing and cautious testing. It is by this means that I have arrived at the conclusion about to be submitted for consideration and discussion.

Much has been said, and truly said, about the softness of tissues and the effects of impure air in tubercular systems; but little has been said, on the other hand, of impure blood and a tendency in its plasma to throw down cheesy deposits. To this inherited tendency, let us see if many other irregularities may not be added by failure on the part of certain organs and secreting glands to perform their normal duties, and thus intensify the developing tendency.

When the bowels fail to act daily and carry off the effete excrementitious material, its offensive elements are reabsorbed and added to the blood, which has to get rid of them as best it can through other channels, viz., the kidneys, pores of the skin, and through the lungs, giving a detestable odor to the breath and porous exhalation.

Now let us see after some of the ways in which a torpid or inactive *liver*, in failing to perform its healthy function, may not only aid in developing this disease, but also in its progress when developed.

Let us remember the liver is the great venous organ of the body, and when torpid or congested the whole venous system is also more or less congested—hence the term applied to this condition, "*veno-hepatic congestion*," which, of course, will favor the development of any local *congestion*

that may be pending from other causes, and thus favor effusion or deposit.

Remember, also, that the *healthy* liver is the great blood purifier of the body, for it collects from the venous blood the toxic elements and other impurities that would be deleterious if not eliminated; and out of these chafing and inflammatory impurities manufactures a due amount of healthful *bile*, the most essential of all the secretions in the body—having a five-fold office, three of which are concerned specially in the subject under consideration, viz: (1), that of aiding in emulsifying the fats and oils in intestinal digestion; (2), that of exciting the peristaltic action of the bowels; and lastly, but not least in importance, that of furnishing animal heat to the surface, and thus fortifying the system against liabilities to take cold, for it has been long and well known that two-thirds of the normal amount of bile, with its hydro-carbon secreted and poured into the bowels, is reabsorbed and burned off at the surface—thus resisting the effects of damp, cold air, so dangerous to phthisical persons; for it is also well known that any person will take cold quicker when the liver is torpid than when active and furnishing the due amount of bile—the great antiseptic, too, of the body.

Let us remember, also, how very important is a healthy, active liver to perfect *gastric digestion*. The most important point of all, both in *preventing* and *treating* this disease, for in the said "veno-hepatic" congestion the stomach, along with its nearest neighbor, the liver, is congested, and failing to properly digest what little food the poor appetite will take, passes it along unfit for absorption and assimilation, and thus fails to sustain and help the *vital force* either to prevent the *development* or resist the *progress* of this disease; in which, with this condition of the stomach and liver, you may ram down your fine nourishment, your cod-liver oil and whiskey, but all to no good effect, for the oil will often do more harm than good by irritating the already irritable stomach, while the whiskey will intensify the congestion of the liver.

One other way in which a "veno-hepatic congestion" may do harm in this disease, but which, however, is more apparent after the disease is well developed, viz., in causing congestion in another important organ, the kidney (for no practitioner can fail to notice that in congestion of the liver there is almost invariably congestion of the kidneys), as shown by deficient quantity of urine, thus throwing an over share of duty on the porous system and predisposing to night sweats.

Gastro-hepatic congestion not only causes indigestion and non-assimilation of food and consequent disturbance of the bowels, but through the sympathetic nervous system it excites cough by a sensory-reflex action, and great increase of the heart's action, which not only intensifies the hectic and night sweat, but increases the congestion and inflammation in the lungs, and if not checked, soon results in breaking down of tissue.

For many years I have entertained the above views, and have quietly and cautiously tested them in both civil and military practice, *giving prophylactic advice* and *applying curative treatment*, based on said views, and often with surprising results. Yet, as I could not find in any of the works on Practice, nor in the medical journals any such views and a corresponding treatment proposed, I was afraid almost to trust my own judgment, or to whisper my views and treatment to my nearest neighbor, but concluded to test it on quietly and more thoroughly, until recently, through the columns of the *London Lancet*, we find reported the results of some experiments of Prof. Bouchard and others, proving the liver to be a *blood purifier* in its *function*.

He and his followers attach great importance to the power of the *liver-cells* to nullify the effects of toxines manufactured in the intestines.

The correctness of this is corroborated by Shiff, Heger, Roger, and others, who found that alkaloids injected into the branches of the portal vein were much less toxic than when introduced into the general venous circulation; and M. Parvlou, by means of a *ligature* placed on the *portal vein*,

found the blood was compelled to deviate from the liver and pass directly into the general circulation, when poisonous symptoms appeared—fever and nephritis, with albuminuria.

That this nephritis is not due to hypertension of blood in the renal vessels is evidenced by the fact that no such kidney trouble is caused by *ligature* of the *inferior vena cava*, although this manœuvre is productive of greater tension in the venal vessels than the operation in question.

A wound artificially produced in an animal, whose *portal vein* has been *tied*, heals very slowly, whereas a similar wound in an animal, where the *inferior vena cava* has been tied, heals readily.

The conclusion is, that if the blood is prevented from passing through the *liver*, toxemia occurs, due to the fact that the *liver* no longer plays a protective rôle against toxines, which are continually being fabricated in the intestinal canal.

Since these similar results, obtained by so many scientific men, show the liver to be not only a poison destroyer and blood purifier, but a general health preserver of the body, and sustain my long entertained views so fully, I feel all the more inclined to submit the matter to the medical profession at large.

As already hinted, I still think the medical profession may not at once approve the plan of treatment based on said views, but I have already enough cured and convalescing cases to prove the merit of the plan—some of which cases I will report at the closing of this paper.

Before dropping this part of the subject, let us suppose a case—say a young man about 20 years of age or soon after the growing force has ceased—inheriting from either parent the peculiar tubercular diathesis, with all its well-marked characteristics—the bright eyes, the soft, delicate skin, and especially the narrow fattish chest, containing, of course, a small pair of lungs, which are therefore a *weak point*, and as "woe doth the heavier sit where it perceiveth it is faintly

borne," so cold, when taken, is apt to take its seat on the weak point in the system.

Moreover, we can readily see that a pair of lungs, *small* in proportion to the balance of the body, are, of course, too small to accommodate easily the volume of blood which is in proportion to the general size of the solid tissues of the body, and hence the small pair of lungs are kept habitually in a state of blood tension or passive congestion, and are, therefore, very liable to active congestion from any additional exciting cause, such as hard, dry cough from taking cold.

Now, suppose the said young man lives in the country, in a section tolerably high and dry, with a porous or open soil that dries out quickly after rain, and being fond of outdoor life, he takes a good deal of regular and prudent exercise, say avoiding violent exercise just after meals, and exercise to a full sweat in cold weather, or to the degree of exhaustion at any time; takes each morning the cold shower-bath and sleeps on any kind of bed, except the feather bed, with just enough cover to be comfortable, and in a large room that has been well ventilated before his bed-time; but no draught should blow on him while asleep, nor should he sit or stand in wind when over-heated or in perspiration; has at least three suits of clothing to change with the weather; his bed-time should be about two hours after his supper, getting, if possible, eight hours' sleep; should also avoid breathing dust and being out in night-air unless in very dry, hot weather. His meals, of plain, strong food, should be taken regularly, and a rest of half an hour after dinner, but strictly shuns the over-heated or crowded room.

By observing such a plain and hardening course of life, such a man will be apt to escape the development of any tubercular trouble in his system.

If, however, such a man, with his bright intellect, prefers city life, and engages in some business that requires a sedentary or in-door course of life, it gradually renders his soft and delicate system still more so.

The sitting posture not only favors scanty secretion, and thus accumulation of impurities in the blood; but the lack of bile for heat purposes at the surface requires a higher degree of heat to the body of air in the room to prevent taking cold; which higher degree of heat, along with a lack of the strengthening influences of exercise in strong light and open air, has a daily tendency to soften the system, and especially the porous system, and thus favor the chance of taking cold in damp, cold air.

So that in the numerous chances for taking cold by young people in city life, say out of heated or crowded rooms into cold, damp, night air, such a person will rarely escape taking cold, to which may easily be added another and another cold-taking.

If the secretions are thus kept long in a checked condition—shown by scanty and high-colored urine, costive bowels, sallow complexion, loss of appetite and indigestion, with all the other symptoms of veno-hepatic congestion—there will soon occur the aforesaid accumulation of impurities in the blood; to which, on the one side of the air-cell-wall, add on the other side impure breathing air, and see if you are likely to have the prompt and healthy act of exos and endosmosis—a quick and ready giving out of carbonic acid and taking in of pure oxygen by the blood disks as they pass rapidly in single file through the capillaries of the lungs.

Or will there be a *stasis* or *slowing* of the circulation in these capillaries—the blood disks lingering, so to say, for their due supply of pure oxygen until they crowd each other into an actual congestion in the said small and hyperæmic lungs. Now, to this congestion add the mechanical force and injury of a hard, dry cough, and you will soon have an effusion of lymph with its *said impurities;* and whether such effusion assumes the tubercular type, as it does in tubercular habits, it seems liable, when in liquid form, to become the nest or hot-bed for the "rod-shaped microbes." And whether these play any part in effecting

said effusion or simply congregate therein after effusion has occurred, is a question as yet undecided.

Still more extreme and formidable, if the supposed case be a young lady at school, ambitiously applying her bright mind so intensely to her books and music that very little time is left for her regular exercise.

The sedentary life gradually impairs her appetite—then follows, "as the night the day," constipation, indigestion, *scanty secretions*, and general weakness.

Very soon comes chilliness, cold-taking (with little or no apparent provocation), and lastly, but worst of all, *a diminution in* or a total loss of the menstrual flow. And whether this flow be regarded as a filtered effusion or a regular secretion, one and all must admit it to be a *great blood-purifying* process. Now, add these impurities, that should have been eliminated by this process, to the aforesaid impurities that the torpid, secreting glands have failed to separate from the blood and send off by the bowels, and you will have a case far more formidable than that of the supposed young man.

As the *symptoms* of phthisis have been so accurately described by all other writers, I shall say nothing on this part of the subject.

And on *diagnosis*, which has been also elaborately and accurately described, I have only to add that when, by auscultation and percussion, we find any dulness or abnormal sounds in the *apex* or upper lobes only, and find all the lower lobes or balance of the lungs clean, we may safely pronounce the trouble tuberculous in its nature, especially if it occur in a person bearing and inheriting the tubercular diathesis.

It is a source of deep regret that we often find mistakes made in diagnosis by eminent physicians, and I often wish they had been taught the science of auscultation and percussion after the manner in which Dr. Da Costa, a specialist in Philadelphia, taught me and the other members of his class in a course of private instruction, viz: by practical demonstration on his numerous patients, for I believe this

to be the best and only way to teach this branch of science thoroughly.

One other idea that may be termed queer, but which, if true, tends not only to sustain my aforesaid views, but shows all the plainer the great importance of fresh and pure air to persons liable to the development of tuberculosis in the lungs, viz: the reason why the disease, as a rule, develops in the apex or upper lobes of the lungs first is, I think, because the RESIDUAL air in these cells of the lungs, which are above a level of the outlets to the air-tubes that supply these parts, does not escape from the air-cells as readily as that from the cells below said level; hence there is more stale air in the upper than in the lower cells of the lungs.

Just here it may be well to observe a point that seems generally overlooked, viz: that the lack of red corpuscles in the blood of phthisical persons is, I think, due to the under size or diminished breathing capacity of the lungs; and just in proportion as the oxidizing capacity of the lung is diminished, so will the number of red corpuscles be diminished; and as the full deep breathing of vigorous exercise increases the oxidizing process, we can readily see that one with a large and healthy pair of lungs can afford to follow a sedentary life better than one with small or diseased lungs.

Prognosis.—The prognosis is favorable if treated early, say in the first and even the second stage, if there has not been great loss of flesh and strength—if this, too, seems to be due to loss of appetite or indigestion, while from history we learn that these were both originally good.

If the hereditary tendency seems not very intense; if the attack developed while the patient was in an unfavorable locality—say damp or dusty in-door air—long-continued sedentary life, sudden and frequent going out of over-heated room into night air or cold wind; if the lungs are not very small, pulse-rate not over 116°, nor breath-rate over 27°, sitting, and if said patient can be removed to a dryer air and favorable surroundings, and receive prompt and careful med-

ical treatment, with *good feeding* according to his appetite and *habit of digestion;* but if the disease is far advanced, say to occurrence of cavity and much breaking down of lung tissue; if the loss of flesh and strength has gone so far that the patient cannot walk up a medium flight of steps and stand alone at the top for ten minutes; and if the pulse-rate go over 130° and the breath-rate over 27° sitting, and especially if the appetite and digestion have generally been poor, so that the case developed while the locality and surroundings were tolerably favorable, I should think the case almost if not quite hopeless.

Many cases, however, ranging between these above named conditions, may be successfully treated—some greatly benefitted and others permanently cured.

After long clinical experience, I am fully persuaded that this disease can be developed in a system that does not inherit the tubercular diathesis, but is, at the time when the germ is introduced into the system, laboring under the aforesaid inflammatory state of the blood; and as to some of the various ways by which said germs may be introduced, it may be well to mention, in addition to some already cited, the instrumentality of the busy little *house-fly*, the breathing of dust while sweeping a floor on which, in time gone by, some consumptive patient has dropped some sputum, by kissing, etc., but by far the most common way of all is probably through the medium of milk from tuberculous cows.

And now comes a point of some practical importance—viz: according to my experience, the chance for curing the patient depends more on our ability to work improvement in his *appetite and digestion*, both gastric and intestinal, together with all the secretions and conditions necessary for healthful digestion, than on hereditary, or climatic, or any other influences with which we may have to contend.

Indications of Treatment.—If I were required to state indications of treatment "*in a nut-shell*," I would say *take care of the stomach and the lungs will take care of themselves*—

provided I may be allowed to mean by the term *stomach* the whole abdominal viscera.

Therefore, under the above views, the indications are:

1st. To keep the blood as free as possible from impurities as aforesaid, and thus prevent, if possible, the said effusion and development of the disease.

2nd. To arrest the progress of the disease when developed by causing elimination of said impurities from the blood, and thus correct its congestive and inflammatory tendency.

3rd. To improve the *digestion* and *appetite*, so that enough fine and easy nourishment will be taken and *properly digested* to improve the strength and flesh of the patient, and *thus help his vital force.*

To fulfill the first indication, and try to prevent the development of this disease, it is necessary to put the liable person on his guard—viz: warn him to avoid subjection of his system to the said unfavorable conditions; to look well after the symptoms of long-checked secretions, as already described in the case "supposed;" and, when observed, to take at once some suitable and certain remedial means to overcome said morbid condition and restore the secreting organs to free and healthy action.

By closely observing this rule in many tuberculous families, I have never known a case to develop, while in said families, before such advice was given, some and often many of the members had died of the disease.

The free use of cold water in frequent foot-washing, and even the cold shower-bath, followed by hard rubbing with a rough towel, in both summer and winter, is valuable as a safeguard against liability to take cold.

When the symptoms of said inflammatory state of the blood appear—say constipation, scanty and high-colored urine, sallow skin and conjunctiva, vertigo, ringing or roaring in the ears, loss of appetite or nausea after eating, perverted taste of food, dry or clammy tongue on waking, general languor or hebetude and unrested feeling after sleep: if these symptoms persist for several days, the patient should take at bed-time, for two or three nights in succession, a

moderately purgative dose of some simple cholagogue—say ipecac and aloes, from 3 to 5 grains of each, according to its effect on the bowels; and if this fail to purge off a large quantity of dark-green bile, and afford full relief in two or three days, he should repeat the course, using however, in place of aloes, from 5 to 8 grains of *pure* hydrarg. chloridi mite and 1 grain of hyoscyamus ale ext., but never use any aloes with nor soon after this dose; nor should any but a fresh and pure article of the mild chloride ever be used.

Should the bed-time doses fail to act on bowels by 10 A. M. next day, he should then take a dose of any other mild cathartic he may prefer, avoiding milk and acids in diet or drink for twelve hours after the last dose; he should feed up well, however, on any other bland but nourishing diet, and avoid damp, cold air or getting cold until strong again.

This course will not only act well as a preventive, but will do more to arrest the progress of this formidable disease than any other I ever tried in an experience of about thirty years in civil and military practice.

The said doses may be given at any time in the twenty-four hours, and increased or diminished to suit the strength of the patient and condition of the bowels; for should the bowels, at the time, be irritable, large doses of sub. nit. bismuth and a little paregoric should be added to the bed-time dose, and full counter-irritation made daily all over the stomach and bowels.

There is no better expectorant for cough than *this course*, nor any better way to arrest night sweats; for, as a rule, after the moving off of bile is over, and sometimes sooner, there is a decided improvement in the hectic fever pulse-rate, breath-rate, and night-sweat, and, best of all, in the appetite and digestion.

If, in the course of time, the symptoms of said torpid secretions return, the same course in little smaller doses should be again resorted to, and in all cases where the temperature and pulse-rate are high, a six or seven drop dose of *Norwood's tincture of veratrum* should be added to the bed-time

dose; but should be given in a little starch by enema or hypodermically. Mercury, never to the extent of ptyalism, nor excessive purging. Use counter-irritation by equal parts of kerosene and spirits of turpentine on old cotton cloth bandages, or paint the surface over the seat of the congestion or deposit with tincture iodine and iodide of potassium, say a mixture of two ounces of the one to half a drachm of the other; apply once a day to keep the skin sore; but if the local pneumonia is considerable and seems to be spreading, a fly-blister should be used, for the progress of the disease will weaken the patient far more than the blister.

Avoid the use of opium in any form as far as possible; and when indispensable, use the mildest form, which is paregoric. Opium checks secretions and binds the bowels.

Whiskey often does more harm than good, and should never be given in nor on the approach of the hectic stage. If admissible at all, say, if it helps appetite and general strength, it may be used when no fever is nigh, for cough and to avoid taking cold, say ten minutes before changing shirt after night-sweat. Its free use in the cold stage only, will often reduce the temperature in the hectic stage. Cod-liver oil should only be given where the patient is fond of it, and as far as reasonable, let him select his food; but when very weak and wasted, should the appetite become very good, he should not satisfy it fully, for if he takes more than he has gastric juice to digest, he will have trouble from indigestion, which invariably excites cough and sometimes vomiting the meal.

Beef juice, in addition to the meals day and night, when awake.

If the urine is persistently scanty and night-sweats stubborn, use sweet spirits of nitre, or some other mild diuretic, largely, and thus try to direct the water through the kidneys instead of through the pores. Sulph. atropia occasionally may help to check the night-sweats.

To quiet the heart's action, say at bed-time or on approach of hectic, before resorting to veratrum, try a flattish bottle of cold water or even a bag of ice, over the region of the

heart, off and on, as may be comfortably borne until hectic is over.

When the loss of strength is considerable and persistent, and the appetite and digestion are slow to improve, great advantage may be derived from feeding by the rectum, say from one-eighth to one-fourth of a pint of good home-made beef essence every three hours, if possible to get it retained, which, after a little practice, can generally be done, if just before each second enema of essence the colon be well emptied by a large enema of tepid water.

This mode of feeding should be resorted to for even a temporary disorder of stomach from imprudent eating, for then the stomach should be, to some extent, rested for awhile, when the feeding by rectum will keep up the strength and flesh, and thus help the vital force to contend against the disease.

Since writing the above, and on reading it to my nephew, Dr. E. M. Sneed, who has been taking the *Medical World* since 1890, he tells me that Dr. N. B. Shade, of Washington city, uses the hydrargyri chloridum mite for consumption, but in very minute doses, long continued, which way I have tried, but found it less satisfactory than the mode I propose. I commenced to take the *Medical World* in 1893, and as Dr. Shade's report was made in 1892 in this journal, I failed to see it. I am glad, however, and much sustained, to find that one other man is using this harmless and yet powerful medicine in this disease with success.

When the progress of the disease is slow and the symptoms of veno-hepatic congestion not plainly marked, the long-continued use of the bichloride of mercury, in small doses, say $\frac{1}{20}$ or $\frac{1}{30}$ grain two or three times a day, often suits better than the minute doses of the mild chloride.

Before closing the subject of treatment, I must not omit to say a word with reference to cough, which symptom I regard as not only the most difficult to manage, but the most aggravating and injurious to all the symptoms in several ways—namely: By mechanical action, it jerks and jars the tender and diseased parts. It excites undue action of the

heart, and thus increases the congestion and effusion in the lung. It tends to promote hæmorrhage, and by the exertion required, along with the increased action of the heart, tends to produce sweat and liability to take cold, especially if occurring after going to bed at night. It not only deprives the patient of much sleep, but often causes vomiting of the meal, and thus loss of nourishment. And as cough, which is due mainly to inflammation in the air passages, is often sympathetic and of a sensory-reflex character, as in the irritable stomach of indigestion, or the irritable womb of amenorrhœa, the indication of treatment should not be only to soothe the nerve centres temporarily with opiates, which generally check secretions, constipate the bowels, and impair the appetite and digestion, and have usually to be repeated and often used habitually to the gradual weakening of the vital force. Therefore, if we can use means to render the expectoration free and easy, remove, if possible, the sympathetic causes (of which indigestion is the most common), and use decided and *long-continued counter-irritation* over the seat of trouble in the *air passages* and lungs, we will afford more permanent relief from cough than by the use of opiates.

Sulphide of calcium is a good antacid in weak digestion, and by arresting fermentation—the first step toward suppuration—it not only serves to prevent the breaking down of lung tissue, but is useful in preventing the liquefaction of tubercles, and thus diminishing the amount of hot-bed or nest material for the germs. Dry up the frog ponds and the tadpoles must die. Germs cannot live nor multiply in dry tubercles.

Where arsenic is well borne by the stomach, it has a decided tendency to fatten, as also to improve the circulation in the skin and tone of the pores, thus rendering the system less liable to take cold; and when any malaria is suspected, it should be given in connection with quinine—say a five-drop dose of Fowler's solution, or three of arsen. auro. in a little water, and a two-grain pill of sul. quinine, just before meals, until slight puffing of the eyes appears.

Some stomachs, however, are easily sickened by arsenic, and with such we should say, as of all other medicines or nourishments, *whatever impairs the appetite, or in the slightest degree sickens the stomach, lay it aside at once.*

An out-door life is, of course, advisable as much as the weather and the strength of the patient will admit; but the exercise should be *moderate* and *often*, and increased by *very little each time*, the intervening rests only long enough to feel well rested, say four or five minutes, then up and go again and again throughout the forenoon; but on the approach of *hectic*, the patient should keep still—say, in winter, go to bed in a large, well-ventilated room, or in a hammock in a breeze in hot summer weather, and in either season with a flat bottle of cold water or a rubber bag of ice applied on the underclothing over the heart. When the skin aches with cold, it may be removed until the aching ceases, and then reapplied again and again until fever is over.

All such patients should be warned against the habit of swallowing any of the expectoration; and to protect the larynx and air tubes, they should use often, and especially before meals, a spray taken deeply into the lungs, by aid of an atomizer, say from the following mixture, which will often allay hard dry cough in day or night:

℞.—Camphor water.....℥iv
Tr. fer. chloridi.....℥iss
Potas. chloras.....ʒj
Menthol.....grs. 30—M.

Dissolve the two salts well with the camphor water by rubbing in mortar. R. L. H.

The above mixture for the spray may be diluted in the atomizer vial by one-fourth, one-third, or one-half water to suit the state of throat or larynx, say as strong as can well be borne.

Or, if the laryngitis be too intense for the above spray, use the following:

℞.—Camphor water.....
Listerine..... ..... āā ℥ij
Potas. chloras..... ℥ss
Menthol..... grs. 20—M.

Sig.—Dilute with water to suit and use as spray.

Or, what is perhaps better still:

℞.—Amyl. kijo... ....℥iij
Camphor water... ..... ℥j

Sig.—Inhale spray from atomizer deeply and freely before meals and for cough. R. L. H.

In using the mixture of ipecac, hyoscyamus and the mild chloride (known by the patients as Howard's gray powder), it is of the utmost importance to have the ingredients fresh and pure, and well up to officinal strength, especially the mild chloride, so extremely liable to decompose; for when by age and exposure to strong light, it looses even a portion of its chlorine, it will not only fail to act promptly and afford quick relief, but linger in the system and cause undue weakness and defibrination of the blood.

I have no doubt that the use of impure articles of this drug and the consequent effects, was the cause of the overwhelming condemnation into which it has fallen.

One effect of ipecac, other than its relaxation over the secreting organs, is a sedative effect over the heart's action, so that reduction of hectic temperature often begins in the next hour after the bed-time dose of the "gray powder."

Quinine is often useful, not only as a general tonic, but as a special tonic to the porous system, say from one to three grains three times a day; and where miasm plays a part in the pyrexia, it should be given in antipyretic doses two or three hours ahead of fever.

Iron, in some form, is generally useful, and we often have to try many before finding a suitable preparation. The pepto-mangan is very good and generally suits; but when the stomach is not too weak, and the teeth can be protected by use of a tube, there is probably no better preparation than the old tincture fer. chloridi, say in twenty-drop doses one-and-a-half or two hours after meals.

As to *diet*, as far as reasonable let the patient select to suit his appetite and digestion, embracing freely, if possible, rich milk and butter, fresh fish and fresh meats, with onion freely if agreeable.

As to a quick and certain germicide—while most of the above-named remedies are germicidal in their tendency, especially the sulphide of calcium—I reckon there is nothing more germicidal than a *pure* and *rich blood.*

Climatic influences have been so fully and scientifically detailed by Loomis, Von Ruck, and others, I have only to add that as *change* of place and board (even if it be from first-class to plainer fare), often effects great improvement, it is well to make such changes, provided the patient is true and faithful to follow directions or can receive regular and competent medical attention until entirely well. There are many places here around the University of Virginia and along the south side of the southwest mountains, especially between Monticello and Carter's Bridge, where is my country home, very suitable as summer resorts, say from 15th of April to 15th of December; but from 1st of January to 15th of April, we have what may be termed the slop season or wet season—so piercing and chilling that such patients can take but little out-door exercise, and would do better a little farther south, say Thomasville, Ga., or some parts of South Carolina, until about the middle of April again. Such change would, of course, affect the interest of a sanitarium, but would be well for the patient.

Cases.—Throughout the late four years' war I served nearly all the time in the field under Stonewall Jackson and A. P. Hill, and hence had but little of this disease to treat, not over ten or twelve of first and second stage cases, all of which recovered, and this was better success than I have since had in civil practice with this class of cases, because, I think, in military practice the directions for treatment are better carried out than in civil practice, for in the latter the patient seldom applies for examination in these stages, and when he does, and is told his condition, he seldom if ever follows advice. As well as I can now refer to

and recall the cases since the war, say thirty-five or forty first stage cases, about one-third went on to the second and third stages, from which only about one-fourth recovered, until within the last five years about one-third of the third-stage cases have recovered.

Two out of five of the third-stage cases treated during the war recovered.

A private in Capt. Joe Moore's Battery, from Portsmouth, whose name I cannot now recall, but the case was treated while in winter quarters near Cobham, in this county, on the Chesapeake and Ohio railroad, in 1863 and 1864. His condition was extreme, and may be remembered by some of the surviving members of said battery.

(1.) The other case, Mr. William McAlister, was also extreme; diagnosed and pronounced hopeless by the surgeon of post, Charlottesville—the late Dr. James L. Cabell and assistants. The said McAlister made a complete recovery, and now lives near Shadwell post-office, in Albemarle county, Va., and can speak for himself.

(2.) George Gianniny, treated about ten years ago at the Charlottesville woollen mills, after being diagnosed and pronounced hopeless by three eminent physicians of Charlottesville, had a large cavity in centre of middle lobe, and a small one in apex of right lung; under this treatment and without whiskey or cod-liver oil, recovered, and is now doing farm work near Monticello; his post-office is Charlottesville, Va.

(3.) Mr. Wm. R. Folkes, now in Salem, Va., was passing through and spent a night here on his way from Baltimore, where the physicians had been treating his case, and finally pronounced it hopeless, and advised him to go home; he had lost a mother, three sisters and two brothers with consumption, and was well into the third stage himself; had a large cavity, or say excavation, of upper lobe of right lung, with considerable deposits in upper lobe of left and middle lobe of right lung; the hectic fever, night sweats, cough, emaciation and loss of strength were all extreme; could only walk a little, and this by the assistance of a sister—his faithful nurse. Both he and I were reluctantly persuaded by our mutual friends here to give my plan of treatment a trial in his case, and although conducted mainly by correspondence, he made a rapid and complete recovery—holding quite good health through the last very unfavorable

winter and spring, and this, too, while following his trade as cigar maker in a factory in Roanoke; his post-office and home is Salem, Va.; recovered in five months, November 1st, '92, to April 1st, '93.

(4.) James Clements, age 23; treated by two other physicians in the first and second stages and until fairly into third stage, with large cavity in middle lobe of right lung and small cavity in apex of same, with extensive deposits in upper lobes of both lungs. When his physicians gave up the case and I was called it seemed utterly hopeless and continued so for two weeks; could not stand alone; the cough very constant, violent, and hard to manage, hectic temperature averaging 103°; breath rate for two weeks was 35, and pulse rate 136; he lost a mother, several uncles, aunts and cousins from consumption, but he is making now a very fair recovery, doing farm work daily; his post-office is Ivy, Chesapeake and Ohio railroad, Va.; recovered from January 15th to June 1st, '95.

(5.) Miss Mollie Bragg, near Union Mills, in Fluvanna county, Va., lost her mother, three brothers and a sister with this disease, and was entering on to the third stage; a small cavity in apex of left lung, cured ten or twelve years ago, and had relapse in which the larynx became involved, losing voice, but under this treatment recovered again, and is now fat and well, stouter than ever, and can speak for herself.

Other cases can be seen here, or referred to if desired.

The "rod-shaped" microbes invariably were found where the cavity or extensive deposit existed in the middle or upper lobes of the lungs.

I have just commenced the use of protonuclein, and think I shall like it very much; and if it will do half what is claimed for it, I should think it of great value in treating this disease.

The Alabama Medical and Surgical Age

Is doing good professional work in Alabama. We congratulate the editor, Dr. John C. Le Grand, of Anniston, one of the Vice-Presidents of the American Medical Association, upon the prospects he has for increasing the circulation of the *Age*.

Art. IV.—Rigid Os.

By D. MAYER, M. D., Charleston, W. Va.

Ex-President of the Medical Society of the State of West Virginia, Etc.

The cases that will be considered will be only those arising from a non-malignant structural change, caused by the formation of cicatricial tissue and those of purely functional character.

When cicatricial tissue exists, it may have been the result of lacerations in previous labors, the result of mechanical injury to the cervix from instruments used in producing abortions; it may have been produced by irritating applications.

Slow dilatation of the cervix may also be the result of adhesions between the membranes and the lower portions of the uterus.

When we remember how many of our patients have had lacerations of the os in previous labors, without producing stenosis in succeeding labors; when we remember what a large number of our multiparous women have had endocervicitis without puerperual orifical stenosis; when we remember that dilatation of the cervix and parturient canal in the primiparal is almost universally slower than in the multiparal, though most of these have never had any previous injury to the cervix, we must believe that slow dilatation of the os generally exists independently of any diseased condition.

Our field now has been practically narrowed down to rigid os, dependent upon organic change or independent of organic change.

The *differential diagnosis* between these two conditions is theoretically quite easy: In those dependent upon organic change, we may find evidences of previous mechanical injury; practically, the differential diagnosis is more difficult; in those dependent upon organic change, we must expect much from the mechanical power of the vertical fibres of the uterus; indeed, we must depend almost wholly upon

mechanical force for dilatation of the os in these cases, and the power of the vertical fibres being insufficient, recourse must be had to mechanical assistance by the physician.

The consideration of mechanical aid I desire to consider at some future time in connection with the treatment of functional stenosis. Having arrived at the conclusion that dilatation of the os is progressing too slowly or not at all, I consider those remedies that now have the respect of the profession, and name them as follows: Chloral, wine of antimony, opium, chloroform, quinine.

Chloral, in my own estimation, stands first in the list; it allays excessive irritability; it permits the patient to sleep or rest between pains; it usually does not interfere with the force or regularity of the true pains, it sometimes does; its contra-indication is marked in cardiac weakness.

Wine of antimony will often relax the teased and irritated and resisting fibres, without diminishing the force of the normal pains; it is objectionable when nausea already exists.

Chloroform is often of much value, but when once its administration is begun, the patient cannot be appeased without it. I have no fear of its depressant action upon the heart of the parturient woman.

Opium and its salts are of value, especially when the woman is exhausted by long continued fruitless pain, who needs a cessation of pains, but opium in the great majority of cases will much retard labor, and if an early termination of labor is essential, this objectionable property is something of a contra-indication.

Quinine is indicated when a stimulant tonic is needed.

There is another remedy, belladonna. I have several times applied belladonna ointment to the cervix without beneficial results, but the positiveness of two or three recent writers who recommend atropia hypodermically led me to distrust my own experience, and made me almost anxious for an opportunity to demonstrate the promised power.

A few weeks ago, I had what I regarded a typical case for its employment, a case of functional stenosis of the cervix.

I introduced a speculum into the vagina of my patient, wiped away all mucus, punched the point of the hypodermic needle into the cervix, and deposited in the cervical tissues about 1-120 of a grain of atropia sulphate; a little piece of cotton, wrapped on the end of a pencil, was pressed against the point of puncture to prevent any escape of the solution; then I waited developments. At the end of half an hour the cervix became soft and tender, opened, and labor went on to completion without any further trouble.

Kansas Medical Practice Bill Fails.

The recent bill before the Kansas Legislature provided "that no person shall practice medicine in this State unless such person is of good moral character, and is a graduate of a legally chartered medical institution of good repute, or has been practising medicine as a means of livelihood continuously in this State prior to the taking effect of the act." The bill was opposed by the Populists. It passed the House, but was defeated in the Senate. In the House, Mr. Winters (Pop. Kiowa) said: "We Western people can't support your plug-hat doctors. We've got a lot of old women who are better than any of them."

In Spinal Epilepsy,

Prof. DaCosta now prescribes three drops of tincture of belladonna and fifteen grains of sodium bromide, three times a day, which are said to be constituent parts of the popular remedy, "Neurosine," prepared by the Dios Chemical Co.

Physiology Indecent.

The following note was received by a school principal from a parent whose daughter was a member of the class in physiology: "Dear Miss,—I don't want you to learn my daughter any more about her insides. It ain't decent, and it turns her gainst her vittals."

The Woman's Medical Journal for March,

According to some of our exchanges, is "amusingly suggestive," in that in one editorial it fiercely denounces the "salacious in medical journals;" and, in another, it speaks of a new *Aphrodisiac* as "one of the few *specifics we have tried; the results from its use* in impotence *were really surprising.*"

Art. V.—Pelvic Inflammation.*

By J. W. LONG M. D., Richmond, Va.

Professor of Gynæcology and Pediatrics in the Medical College of Virginia, Etc.

I. *History.*—Pelvic inflammation is one of those subjects which illustrates the rapid strides of modern surgical pathology. Prior to 1860, the old idea of *cellulitis* or *peri-uterine phlegmon* held universal sway. This was the pathology of M. Nonat. About this time Bernutz and Goupil entered a protest, claiming that inflammation of the pelvic peritoneum is "generally symptomatic of inflammation in the tubes or ovaries." Even as far back as 1843, Bennet taught that "inflammation of the cervical canal is the cause for the most part of the diseases of women." How near the truth these men came is very clear in the light of recent pathology. They stopped just short of the goal, and the excellent doctrines taught by Bernutz were forgotten. About 1870, Emmet revived the doctrine of Nonat, and for a few years almost every case of pelvic inflammation occurring in women was called "*pelvic cellulitis.*"

Some twelve years ago, Tait began to demonstrate, by abdominal section, that most of the cases of so-called "pelvic cellulitis" are really pus-tubes, and once again the Nonat doctrine had to take a back seat.

II. *Present Status.*—To-day we are practically agreed that pelvic inflammation, whether in the tubes, ovaries, pelvic peritoneum, or cellular tissue, is one and the same thing—each tissue involved merely representing a step in the process. The "point of departure" is almost invariably in the uterus; the order of involvement is usually endometrium, tubes, ovaries, pelvic peritoneum, cellular tissue. The inflammation travels by continuity of tissue. Sometimes, especially in puerperal cases, the infection travels by a different route; in such instances, the hypertrophied, torn and gaping lymphatics suck the infectious material from the

* Prepared for Medical Society of Virginia, to be held September 3–5, 1895.

genital track and carry it first into the rich bed of connective tissue between the folds of the broad ligament, causing lymphangitis and cellulitis, and peritonitis secondarily.

But, as already stated, the *rule* is that *the infection spreads by way of the tubes*, consequently we rarely have cellulitis except as a result of peritonitis. Even in those cases which appear to be cellulitis, an operation or an autopsy would show the inflammation to be intra peritoneal, with, in exceptional cases, an effusion into the underlying cellular tissue.

III. *Causes.*—The causes of pelvic inflammation may be summed up in one word—infection. The infection is either septic, gonorrhœal, or tubercular.

Labor at term, and abortion, offer favorable opportunities for the entrance of septic poison. It is to be remembered in this connection that the vagina and cervical canal are the *natural habitat* of certain pathogenic bacteria, while the uterine cavity, when healthy, is free from them. The puerperium, especially when complicated, retained bits of placenta, lacerations, abrasions, or even the pressure of subacute inflammation, present favorable conditions for the development of these infectious bacteria which normally are in a latent, attenuated state. Therefore it is possible for a woman to become septic without further infection; but, as a matter of fact, this auto-infection rarely occurs; and usually the septic agent is introduced on *dirty fingers, syringes or catheters.* The "gospel of cleanliness" is never more applicable than in the management of these cases.

Instrumental manipulation is another frequent source of septic infection. It is not the presence of the instruments, or the wounds they make, but the introduction of bacteria that causes the trouble.

Gonorrhœal infection, next to sepsis, is the most frequent cause of pelvic inflammation. The gonorrhœal virus sets up vaginitis, endometritis, salpingitis and peritonitis; suppuration is abundant, while sacs of pus form within the tubes and peritoneum. Bartholin's glands, the urethra, bladder and ureters, all become infected. Sometimes these numerous

steps in the process succeed each other with surprising rapidity. In those instances where a puerperal woman has gonorrhœa, she may have a *mixed infection*—both septic and gonorrhœal.

Tuberculosis should be mentioned as a cause, since it has been shown that tubercular salpingitis is present in quite a large proportion of pelvic inflammatory troubles.

There remains yet a small proportion of cases caused by *sudden suppression of menstruation, the irritation of tumors and the rupture of cystic growths;* but even in these cases there is always a suspicion of infection.

IV. *Pathology.*—We need not dwell long upon pathology. Whether in tube or ovary, peritoneum or cellular tissue, there is congestion, hyperæmia, effusion, infiltration, and if the infectious agent is virulent or the process is intense, suppuration. These are followed by either absorption, organization, or evacuation through a natural or artificial opening, or the fluid may remain encysted for a long time as when in the tube. We should not lose sight of the very important fact that an intense inflammation of either one of these tissues (tubes, peritoneum or cellular tissue) necessarily involves the adjoining tissues. If the tube is infected, the poison readily reaches the peritoneum through the fimbriated extremity; even after the opening has been sealed by plastic lymph, the infection penetrates the walls of the tube setting up peritonitis, or the tube "leaks" through its imperfectly closed pavilion end. It is well understood that cases of recurrent peritonitis are often due to a leaking pus-tube. Usually the ovary takes part in the tubal infection, and these organs are firmly glued together. Only recently I removed a fibroid uterus, on either side of which was a pus-tube, with its outer end so incorporated with the ovary that it was impossible to tell just where the tube stopped and the ovary began. The left tube and ovary contained a half pint of pus.

As soon as the infection reaches the peritoneum, we have congestion and exudation. The tendency of all peritoneal

exudates is to form *adhesions*. If the amount of effusion is large, most of it is absorbed and the remaining plastic lymph is organized into more or less firm adhesions. If the inflammatory process has been slow, the peritoneum throws out layer after layer of plastic exudate like an advance guard, to restrain and limit the infection. This is one of the beneficent provisions of Nature. If the effused serum becomes infected, suppuration occurs and pockets of pus form. I desire to emphasize the fact that most of these abscesses are *intra-peritoneal*.

As has been shown, *cellulitis is secondary* in most cases to an existing peritonitis. I have yet to see the man who can differentiate at the bed-side a cellulitis from a peritonitis. We may have cellulitis, but back of it is peritonitis. A case in point is that of a woman admitted into my service at the Old Dominion Hospital in July. The pelvis was blocked with an exudate which straddled the rectum, producing a veritable stricture. The mass extended up into the abdomen nearly to the umbilicus. The temperature was 104°; the pulse 140, and very feeble. Through a short incision in the posterior vaginal fornix, the forefinger opened an abscess containing 50 c. c. of pus, and higher up another abscess containing 350 c. c. of pus. The operation was followed by a prompt fall in the temperature and a speedy recovery. Certainly the woman had cellulitis, but it was only as a complication of the peritonitis. The exploring finger could actually feel the coils of intestines that formed the posterior wall of the abscess.

V. *Symptoms and Diagnosis.*—The symptoms are variable, depending largely upon the virulence of the poison, the intensity of the inflammation, and the stage of the process. The symptoms are those of inflammation and sepsis; but however distinct they may be, they should not be taken as conclusive without making a physical exploration. The more I examine such cases *bimanually*, the greater do I value the method. In most cases, it is so easy to determine the presence of the boggy tender tissue, the adhesions, the im-

mobility, and in some instances the distended tube or encysted fluid. To neglect bimanual palpation, is to overlook many of these cases.

VI. *Treatment.*—1. *Prophylactic:*

(a) I would enter here a plea for the *surgically clean management* of all cases of labor and abortion. The majority of pelvic inflammations come from infection during the puerperium.

(b) The necessity of treating *gonorrhœa* before it reaches the tubes, is plainly shown by the fact that next to puerperal infection, gonorrhœa is the most important etiological factor. Non-specific vaginitis and endometritis should also receive prompt attention, for sooner or later the infection, if not destroyed, will reach the tubes. It is a common thing to find a young girl with pelvic inflammation, who gives a history of having had a leucorrhœa for several years.

2. *Medicinal.*—Much can be done toward relieving these cases by absolute rest, saline purgations, dieting, sponge baths, hot douches, and enemas. When the infection has reached the tubes and beyond, we can only wait, and by such methods as just indicated, help Nature to check the process and sustain the patient.

3. *Surgical.*—(a) When the uterus becomes infected, *curettage* is the most valuable measure we have, and should be resorted to whenever we have reason to suspect septic matter is in the uterus. Even after pelvic inflammation has developed, it is often wise to gently curette the uterus, if it still contains infectious matter. Curetting the uterus to drain the tubes, is in most instances chimerical.

(b) The well-known rule in surgery—*to evacuate pus whenever it forms*—holds true here. In acute cases, the presence of pus is indicated by fever, prostrating night-sweats, the exhaustion, and the boggy feel of the pelvic tissues. Just here, operators differ as to the best procedure. For my part, I prefer to make a *short median incision in the posterior vaginal fornix, and to "bore" the forefinger into the sodden*

tissues, whether into the cellular between the folds of the broad ligament, or into Douglas' cul-de-sac, and evacuate the serum and pus. However, I reserve this procedure for those cases in which the tissue can be distinctly felt to be "boggy" or an abscess can be felt. I do not drain pus tubes in this way; but the presence of a pus-tube is not a contra-indication to the operation. It is the infectious matter *outside of the tubes* that causes most of the sepsis. I have done this operation a number of times, and always with the best results. If one has never tried it, he can hardly realize the benefits to be derived from it. It may be done in the height of an acute inflammation, or at any time during the exhausting after-course of such an attack. It is without shock, and in skilled hands comparatively free from danger. This measure, judiciously applied, will snatch many patients from imminent death.

(c) If a pus-tube is present, or dense painful adhesions remain, an *abdominal section* should always be done. This should not be done during the acute stage of the attack, but after the inflammatory symptoms have subsided, and the patient's strength built up as much as possible. It is a strange fact that a woman with tubes containing large quantities of pus may go about and even attend to her duties. The tubes become greatly thickened, and systemic infection is thereby prevented. But the fact that this is sometimes true, should not lull us into a false sense of security, for, by all means, as soon as possible, pus-tubes should be removed.

(d) *Vaginal hysterectomy* is worthy of consideration in this connection. It is an operation that has come to stay. Jacobs has operated by this method 272 times for "inflammatory diseases of the appendages" with only six deaths—2.2 per cent. The operation is also done for extensive suppuration of the pelvic tissues, with the view of securing better drainage of the pus-pockets.

Art. VI.—A Medico-Legal Study of Delirium Tremens.

By T. D. CROTHERS, M. D., of Hartford, Conn.,

Superintendent Walnut Lodge Hospital.

Delirium tremens is a name describing a class of symptoms that are noted by delirium and muscular trembling. The delirium is usually associated with hallucinations of a painful nature. Animals and repulsive objects, chiefly snakes and reptiles, threaten to inflict pain and death. Intense melancholy and fear of violent, distressing death pervades the mind. The acts and words of persons about him have a sinister meaning and concealed delusions are common. The muscular trembling is intermittent, and seems most prominent when the muscles are called into action. Most of these cases have a history of excessive or steady, continuous use of alcohol. Other cases follow excesses in the use of tobacco, tea, coffee, camphor, and other drugs. The great prominence of the symptoms make it impossible to doubt the derangement of the mind and the irresponsible character of the words and acts of the person. Crime of all degrees during this period is not recognized in courts as punishable. When the fact is established that the crime was committed while the person was suffering from delusions of a special form, associated with muscular trembling, insanity and irresponsibility is usually admitted.

Lord Kingsburgh, of Glasgow, Scotland, in a noted case last year, charged the jury that it should be considered as a fact generally accepted that, if a man was proved to be insane at the time he committed the act, he was therefore to be freed from the consequence of that act; and, furthermore, "It was not for the jury or judge to enter into the question as to how this insane state was brought about. The question cannot, therefore, be raised, Was it his own act? Was it, in fact, brought about by his own course of drinking? We must accept the evidence that he was insane at the time when the crime was committed, if this is proven. That is sufficient; one cannot enter into the question of causes."

This was the ruling of a judge in a case where murder was attempted during an attack of delirium tremens. While this is an advanced ruling, most of the courts follow the spirit in the recognition of total or limited responsibility, when delirium tremens is proven to exist at the time the act was committed.

There is an incipient stage in many cases of delirium tremens, in which crime and legal wrongs may be committed, that is not well recognized. This stage is marked by a variable period of extreme restlessness, insomnia, dreams and visional hallucinations. The person who drinks regularly every day, conducting his business as usual, will become sleepless, and find more spirits essential to overcome this restlessness. Increased anxiety and morbid fears of danger, of losing his property, of being the victim of his family, relatives and employees are thoughts that grow in his mind. Later, the insomnia and restless agitation are followed by hallucinations, which are concealed, and all that is apparent is his increasing haggard appearance and abrupt, unusual conduct, with diminished or increased use of spirits.

Finally, some shock, like a fall, or unexpected news of any kind that excites him, or convulsion coming apparently from increased use of spirits, ends in a stage of violent delirium with tremors. His insanity is now fully recognized. Death or recovery follows. After a time it is found that during this incipient period he has made fraudulent contracts, unjust wills, or has diverted trust funds, and acted criminally in various ways. The question is raised of his mental soundness. Ordinarily, the only evidence in favor of unsoundness is the unusual restlessness and changed manner and habits, with increased use of spirits during this period. If he has come under the observation of a careful physician, his real condition will be recognized; but often nothing has been noticed or done to avert this state except advice to stop drinking.

The following case is a type of others: A business man, drinking brandy every day, was never intoxicated or

apparently incapable of conducting his work. He became very restless; could not sleep; grew moody and suspicious; took unusual precautions to prevent burglars entering his home and factory. He drank excessively at night to bring on sleep, with only partial success. Had an expert go over his books to detect frauds every month. The advice of his physician to stop drinking was unheeded. He seemed rational, only more reserved and anxious about his business, and complained of insomnia, and spent his time at home walking up and down the room. He explained this as an attack of rheumatism, which was lessened by continuous exercise. Finally he fell and broke his leg, and a severe attack of delirium tremens ended in death. A will written during this period gave all his property to publish books on spiritualism; also several receipts were found to debtors of large claims as donations for no equivalent. He had deposited in two banks large packages said to contain stocks and bonds. After death these packages were found to be bundles of brown paper. The matter was settled without contest.

Another case, recently settled, brought out the same facts. An eminent banker, who had been a moderate drinker for years, was considered to have suffered in health for the past two years, and became very nervous and excited in his manner. Although conducting his business rationally and without change to his intimate friends, he was reserved, suspicious and irritable; at times very emotional and violent in anger or fits of weeping. He was thrown out violently from a wagon and made unconscious, and the next day delirium tremens developed and death followed in a week. His accounts revealed fraud and theft, and very bold dishonesty, all limited to two months before his death. I was convinced that incipient delirium tremens had existed during this time, and the man was unsound and irresponsible.

Many cases occur of inebriates who, after fatal assaults or serious crimes, are attacked with delirium tremens in jail within a brief time of the commission of the act or crime.

The common explanation that this is due to the sudden withdrawal of spirits is not true. It is the explosion and later stage of a progressive disease which has existed for some time.

Delirium tremens is not a disease of itself; it is only an extreme stage of inebriety—a convulsive form of brain poisoning and cell exhaustion. A variety of causes, largely unknown, determine this form of degeneration, and it appears only in extreme stages of the case. Its sudden onset, apparently due to some special cause, such as injury or change of habits, is literally the explosion or development of conditions which have been gathering for a long time before It is an error, sustained by clinical experience, that any one can be sane and conscious of his acts, and possess the power of control up to the moment of the outbreak of delirium tremens.

In a celebrated murder case, the prisoner had an attack of delirium tremens, beginning five hours after the commission of the crime. It was held by the judge that this fact did not indicate insanity or inability to realize the nature and consequences of the act at the time; also, had the crime been committed after the delirium developed, it would have been a clear question; but occurring before, the question could not be entertained. This view is entirely theoretical, and is opposed by all practical study of these cases.

In another case, where delirium tremens appeared two days after the crime was committed, this fact was considered as only an incident of little practical importance in the question of sanity. Many cases of crime committed by inebriates are not marked by delirium tremens, either before or after the act. The fact of delirium tremens is in itself clear evidence of profound brain degeneration and impaired capacity of reason and control in crime. In two cases where the mental condition is in question, the presence of delirium tremens should be considered as unmistakable proof of mental disease. As in cases of insanity, crime may be conceived and executed during this early stage of

delirium tremens, and, after the execution, the delirium will explode; then the question of the mental condition occurs. The fact of delirium tremens after the crime indicates a previous impairment of the brain, which was not recognized at the time. The extent of this impairment must depend on circumstances, such as amount of spirits used, conditions of living, conduct and appearances. The outbreak of delirium tremens within a few hours or one or two days of the crime should be considered as an advanced stage of a disease that existed at the time the crime was committed. This is to be sustained by collateral evidence, which is always accessible from a study of the conduct and character of the case.

A murder and arson was committed by two men. One man was a professional criminal who seldom drank spirits; the other was a hostler who drank regularly for years. During the past six months before the crime he drank to excess daily, but was able to attend to his work, although recognized as partially intoxicated all the time. Six hours after the crime he was arrested and seemed more sober than he had been for a long time. The next day after arrest he was attacked with delirium tremens and recovered. Both men were hung. The inebriate was clearly a maniac and irresponsible, and unable to reason or act sanely at this time.

Crime committed within a brief period after recovery from delirium tremens, opens a field of suggestive inquiry that should be examined carefully. The possibility of delusions growing up during the period of delirium and concealed is common. In some cases, where the memory is exalted and greatly intensified, impressions of acts, and the will of others in relation to his condition at this time, deepens into delusions of wrongs and injury that become firm convictions. Recovery brings caution and prudence to conceal these imperative conceptions, but the ability to discriminate and correct them is wanting. Such cases alter their wills or write new ones, display strange antipathies and attachments, and make unusual business contracts, and do many strange things. Homicides are not uncommon after recov-

ery from delirium tremens, and sometimes the act is justified by the prisoner. In reality the brain has not recovered from the impairment and degeneration which exist; delirium and delusions are present, or may appear any moment.

Where amnesia and a total blank of memory follows recovery from this delirium, the prospect of delusions and mental disturbance is less prominent.

In all cases of delirium tremens, an enfeebled brain and impaired power of reason and control are present. The degree of this injury and its prominence will vary widely. In any contested case, where the history of delirium tremens appears, there is strong suspicion of mental unsoundness, although this condition may have existed long before.

It is well known that blows on the head not unfrequently start a train of causes which years after develop into epilepsy.

The profound shock and injury which the brain receives from the poison of alcohol and other narcotics, manifest in the convulsive brain activities and muscular functions of delirium tremens, is never permanently healed.

Susceptibility and liability to mental derangement is far greater in these cases than in others. Abnormal mental acts of all degrees and grades are more or less common. This fact has not been recognized, especially in contested cases, where delirium tremens occurred years before the act in question, and alcohol has been used during the interval.

The fact that alcohol is used again, in a case which has suffered from delirium tremens, should be assumed as clear proof of mental failure, and degeneration. All unusual conduct and acts should be seriously questioned in such cases. All observation shows that many persons recover, and are able to do good work, and act rationally after an attack of delirium tremens; but this is not proof that various forms of insanity may not break out any time from the application of some peculiar causes.

The same observation will rarely discover any person who, after an attack of delirium tremens, resumes the use

of alcohol, and continues to act rationally and with good judgment.

Delirium tremens, arising from excessive use of tea, is not uncommon. Such cases are usually taken to an insane asylum, and the prominent symptoms disappear early in the treatment. The delirium is of a milder type, and the delusions are not confined to distressing objects or animals. Fears of poverty, of sudden death, of injury, and poisoning, with visual and aural hallucinations, are more common. The muscular trembling is paroxysmal with free intervals. There can be no question of mental incapacity in these cases; a study of the symptoms makes this prominent. In the case of a disputed will, it was proven that the maker for many months drank constantly large quantities of the strongest tea. His mind was undoubtedly deranged, although this fact was not admitted in the court. In any contested case evidence of excessive use of tea and coffee should be admitted as corroborative proof. But if the evidence show delirium and muscular trembling, it is more than this, it is *prima facie* proof of mental unsoundness. Coffee delirium is seldom seen alone, but is associated with other derangements of the brain and nervous system. Assaults have been noted in these cases, but the transient duration of the delirium and the prominent exhaustion following should be considered a degree of mental unsoundness. Many similar deliriums follow from fevers and inflammation of the kidneys and toxic states, from digestion and other conditions, but the incipient stage is so brief, that the question of mental soundness has so far rarely occurred.

Medical witnesses should insist on delirium tremens being understood as an extreme stage of inebriety or alcoholism, and not a temporary condition due to some special over-use of alcohol and bad treatment. It should be made clear that the accumulated toxines of alcohol gradually gather, and finally explode in one convulsive riot of mental derangement; that alcohol and other dangerous toxines may and do accumulate up to the verge of explosion, and are

halted, for some unknown reason, at this point for a variable period. During this incipient period, the brain falters in judgment and control, and conduct will vary from the usual standard.

Acts committed during this period may be open to serious question, and should be always carefully studied. Any form of inebriety which breaks out into delirium tremens shows profound impairment of reason, not only during the stage of delirum, but before the delirium appears. After the subsidence of this convulsive storm, the injury continues Delusions, concealed or open, and general mental enfeeblement may continue for a long time. The statements of persons as to circumstances and events occurring before the outbreak of delirium, are without value unless confirmed by other evidence.

Also memory of events during the attack, and reasoning of motives and character, are liable to frequent errors.

The question of degree of responsibility and power of control and reason, is to be inferred from a study of the facts of each case. The central fact of excessive drinking is the starting-point for all study. The stage of delirium tremens is another landmark. Then comes a study of the act in question, and comparison with similar acts by other persons; also of motives and possible reasons justifying such conduct.

The fact should be considered, that the alcoholic drinker in certain conditions and in certain surroundings, and states of vigor or debility, will usually act along a uniform line.

The narcotized brain and deranged sensations of the inebriate, are always the fertile soil for delusions and perversions of all kinds. Acts are but the expressions of these changes and perversions, and the more abnormal and unusual, the wider the departure from health. These are the general principles which should govern the study of these contested cases associated with delirium tremens.

Art. VII.—Cholelithiasis—Anatomy and History.*

By J. W. HENSON, M. D., of Richmond, Va.,

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Had unlimited time and patience been expended in the selection of a subject for investigation and discussion by this body, there could hardly have been found one more replete with interest than cholelithiasis. Full of interest because, while we have known so little about it until the past few years, there promises to be such a large field from which to gather knowledge—such a great opportunity of redeeming past errors by future successes.

The division assigned me, viz., the *Anatomy and History of Cholelithiasis*, is hardly an insignificant one, for we could poorly appreciate the dignity of the subject—of any subject—without some insight into its history; and surely any comment upon the importance of the anatomy of the part would be superfluous.

The gall-bladder is a pear-shaped viscus, 2½ to 4 inches in length, 1 inch across at its broadest part, and holding from 8 to 10 drachms. It is found resting in a fossa on the under surface of the right lobe of the liver, extending from near the right extremity of the transverse fissure forwards and downwards to the anterior margin of that organ. When full, its *fundus*, bulged and rounded, projects beyond the liver at a point a little over two inches to the right of the round ligament, and lies in contact with the anterior abdominal wall opposite the ninth costal cartilage, close to the outer border of the right rectus muscle. Its *body* is in close relation below with the hepatic flexure of the colon, the first portion of the duodenum, and sometimes the pyloric end of the stomach. Its *neck*, curled upon itself like an S, tapers to become continuous opposite the right extremity of the transverse fissure with the cystic duct.

Please notice the relation of the bile-ducts to the hepatic artery and portal vein. The latter resembles in appearance

*Read before the Richmond Academy of Medicine and Surgery, July 28, 1895.

a bile-duct; hence the importance of marking their relative positions.

The *cystic duct*, over an inch in length, courses downwards, backwards, and to the left in the free border of the lesser omentum to join the hepatic duct at an acute angle. It lies in front of the portal vein and to the right of the hepatic artery.

The *hepatic duct*, not quite two inches in length, is formed by the junction of two smaller ducts, one from the right, the other from the left lobe of the liver. It is placed in the folds of the lesser omentum, to the left of its free margin, the hepatic artery passing behind it, between it and the portal vein. Directed downwards and to the right, it forms by its junction with the cystic duct the *common bile duct*.

The latter is about three inches in length. It descends first in the free border of the lesser omentum, in front of the portal vein and to the right of the hepatic artery; then passes behind the first portion of the duodenum; then behind and between the head of the pancreas and the descending duodenum, and ends by opening into the lower part of the latter on its left side and a little behind, being joined by the pancreatic duct a very short distance above its termination. After traversing the intestinal wall very obliquely, it terminates in an opening on the summit of a papilla, which opening is the most narrow point in the common duct.

Below its junction with the pancreatic duct there is a dilatation called the *ampulla of Vater*. Here the common tube is three lines in diameter. Throughout the rest of its course it possesses a diameter of two lines, except at the papilla.

The gall-bladder has three coats—serous, fibrous and mucous.

While occasionally this organ is completely surrounded by peritoneum, a fold of which in that instance connects it to the liver, forming a sort of mesentery, please observe that, usually, it is attached to the fossa in which it lies by connective tissue, the serous membrane, just mentioned,

simply passing beneath it and to a small extent upon its sides. This is mentioned as bearing upon the operation of excision of the gall-bladder, in doing which the peritoneum is split, the bladder dissected out, amputated, and the incision in the serous membrane closed.

The fibrous coat has some muscular tissue in it, but it is claimed there is little contractility in this coat.

The mucous membrane is provided with numerous mucous glands, is richly supplied with lymphatics, and is raised into rugæ so arranged as to bound polygonal spaces.

The membrane at the neck forms folds, which act as valves: one such fold is found at the junction of the neck and cystic duct, forming a sort of circular valve, at which point there is also a constriction.

The ducts have fibrous and mucous coats. The latter coat in the cystic duct is raised in crescentic folds, 8 to 12 in number, which are arranged obliquely and in succession around the tube so as to resemble a continuous spiral valve.

So much for the anatomy of the gall-tract. *As to the History of Cholelithiasis*, I have been able to glean very little.

Gall-stones were observed by Johann Kentman in 1565; surely some one must have recognized them earlier. While originating most frequently in the gall-bladder, they may be found anywhere in the gall-tract, from the small ducts inside the liver to the ampulla of Vater. They vary in number from 1 to 8,000, and in size from a grain of sand to a walnut.

In shape, originally round or oval, they become angular and present flattened or concave facets produced by rubbing one against another. When found in the small ducts, they may be branched like coral. They occur at all ages, from the new-born infant to the most aged.

In Trousseau's *Clinical Medicine*, it is reported that 10 per cent. of all adult males, 25 per cent. of all adult females, and 36 per cent. of the insane have gall-stones.

Schrœder, of Strassburg Hospital, has found them in 4.4 per cent. of all males, and in 20.6 per cent. of all females, especially if they had borne children.

Symptoms are manifested in 1 per cent. of all who have stone.

I need do no more than mention some of the *morbid conditions resulting* from cholelithiasis, for each will be fully described by some of the gentlemen who follow me:

1. *Localized peritonitis*, which may become, on account of adhesions, a source of trouble after stone is no longer present.

Prof. Lennander has furnished a record of a series of cases in which the removal by operation of adhesions, gave great relief to internal pains and digestive disturbances.

2. Obstruction of one of the bile-ducts.

3 Hydrops of gall-bladder or bile-duct resulting from the latter.

4. Cholecystitis.

5. Empyema of gall-bladder.

6 Acute intestinal obstruction, due either (a) to a local peritonitis, with adhesions; or (b) to impaction of large gall-stone in bowel.

Several cases of the latter have been reported, but I wish to mention *one* on account of the large size of the stone. Mr. Everly Taylor, of Scarborough, did a successful operation for the relief of acute intestinal obstruction—removing a gall-stone weighing 1½ ounces, and measuring 2 inches in length, with a circumference of 4½ inches.

7. Ulceration, with resulting fistulous tracts, into colon, duodenum, stomach, pelvis of kidney and right pleural sac.

8. (a) Abscess of liver.
   (b) Localized peritoneal abscess.
   (c) Abscess in abdominal walls.

9. Fistula on abdominal wall.

10. Suppurative choleangitis.

11. Septicæmia or pyæmia.

12. Gangrene of gall-bladder.

13. Dilatation of stomach due to adhesions around the pylorus.

14. Perforative peritonitis.

15. General hæmorrhages: dependent either on (a) gall-stones alone, or (b) cholelithiasis, associated with malignant disease.

16. Empyema or pneumonia of right side.

17. Pyelitis of right side.

In regard to surgical operations on the gall-tract, I shall only give a running history of developments in that line. So long ago as 1733, Petit suggested the possibility of dealing with certain disorders of the liver by surgical means, and in a memoir published in 1743, he suggests that the distended gall-bladder be relieved by puncture, and that stones in that viscus be extracted by lithotomy. Such a lithotomy would, of course, be cholecystotomy. Operations upon the gall-badder were discussed in a casual and flighty manner in the early part of the present century. Dr. G. Harley suggested puncture of the gall-bladder through the abdominal wall for the purpose of sounding for stone. He performed the operation on May 17th, 1884. Patient died. The operation of puncturing non-adherent gall-bladder after opening the abdomen, has been done some twenty-five times, says Murphy, of Chicago. This operation and Harley's are both dangerous, because there is so little contractility in the wall of the gall-bladder, that the opening made is apt, after the needle is withdrawn, to allow fluid to escape into the peritoneal cavity.

I have not been able to ascertain when or by whom cholecystotomy was first performed.

There are three modes of doing it:

1st. Incision of the gall-bladder without further operative procedure; a drainage tube is, of course, necessary. This necessity has been met recently by Murphy's "Button-tube drainage." I, of course, leave the indications for this operation, as well as all others, to be brought out under the head of surgical treatment of cholelithiasis. Mortality up to the present time is about 18 per cent.

(2). The second mode is incision of the gall blander, removing its contents, immediate suture of the bladder and suturing it in the wound of the abdomen.

Murphy can collect but four cases—one of the four fatal.

(3). The third, cholecystotomy, is called cholecystendysis or ideal cholecystotomy. It is incision of gall-bladder with

immediate suture and reposition into abdominal cavity. This mode was suggested by Langenbeck. It is the result of the prevailing desire of surgeons to close up the abdominal cavity at once.

Tait, Langenbuch, Lange, Meredith, Kuster, and Keen have opposed it, claiming that bile will leak through the incision into the peritoneal cavity. Murphy asserts that this does not happen.

Cholecystostomy-suture of the gall-bladder to the abdominal wall with incision, so as to form an external fistula, seems to have been about the first cutting operation on that viscus. It was done for the first time July 15th, 1867, by Dr. Bobb, of Indianapolis. Patient recovered.

In 1878 and '79, without a knowledge of this case, Marion Sims, W. W. Keen, and Tait did the same operation; they, as well as Bobb, in each case opened the abdomen either without a diagnosis or with a mistaken one.

The operation performed by these men was cholecystostomy in one sitting, suture with immediate incision.

Murphy reports a mortality of 19 per cent. out of 201 cases, collected by Courvoirsier, Riedel and himself.

The mortality from cholecystostomy in two sittings, suture with secondary incision, is 10 per cent. out of 50 cases collected by the men just mentioned. This operation was first suggested by Carri and executed by Blodgett and Kocher in 1878.

Cholecystostomy in one sitting is now best and most safely performed by the use of the Murphy button.

Cholecystectomy, excision of the gall-bladder, was proposed by Langenbeck, in 1882, and has been carried out by him in at least a dozen cases. It has been adopted by many surgeons. Mortality about 10 per cent.

Zielwiez reports performing cholecystotomy with ligation of the cystic duct. He claims that this is much simpler and less dangerous than cholecystectomy.

Cholecystenterostomy, gall-bladder and intestinal anastomosis, was first advised by Nussbaum, of Munich, in 1880. The operation was first done, and successfully done, by

Winniwater. Murphy says Winniwater operated six times on the same man, between July 20th, 1880, and November 14th, 1881. Frederick Treves gives only one date and that November 21st, 1882. The next operators were Monastyrski and Kappeler. Then followed Tillaux, Bardenhever, Socin, Terrier, Robson, and Jacob Michaux, of Richmond, Va. These names are not placed in the order of the dates at which they operated. The date of Michaux's operation was February 8th, 1888.

For the purpose of perfecting this operation, dogs were experimented upon by J. McFadden Gaston in 1883, 1884 and 1886, by Colzi in 1883, and Page in 1887. Dastre and Harley did the same.

These experimenters labored with great energy by the use of various devices, such as caustic potash, elastic ligature, and other means, to make sure of the formation of an anastomosis by an operation in one sitting.

Dr. John B. Murphy, of Chicago, grasped the situation and came to the rescue with the anastomosis button. He states that in all there were 23 cases operated upon by suture up to December, 1893; in these there were 8 deaths—a mortality of 35 per cent.

On the contrary, he reports 17 cases of *cholecystenterostomy* for gall-stones, done by means of the anastomosis button, between June 11th, 1892, and December 1st, 1893, with 17 recoveries—100 per cent.

Cholelithotrity, crushing the gall-stones either with the fingers or padded forceps, was suggested and performed by Lawson Tait.

Terrier has collected four cases, and Robson mentions a fifth of *choledochostomy*—common duct and intestinal anastomosis. All ended fatally within a few weeks, "Probably," says Robson, "because such extreme distension of the bile ducts as had occurred before the operation had resulted in infecting bile passages in the liver."

Finally, Terrier has collected 17 cases of *choledochotomy*, the common bile-duct being opened for the purposes of extracting a foreign body. Good results in 82.36 per cent.

Art. VIII.—The Hygiene of Infancy.*

By S. P. PRESTON, M. D., Lynchburg, Va.

The belief in the infallibility of experience as a teacher is undoubtedly a great factor in the many errors that are made by medical men. Too often the statement, "That is my experience," is made to serve as a logical proof in argument. We are prone to overlook the fact that the value of experience as an instructor must depend largely upon the judgment of the one receiving it. One may have a hundred fold more experience than another, but not profit by it half so much as the latter does by less instruction. I know of no class of cases whose management is more fearfully influenced by "experience," instead of progressive common sense, than is that of the infant.

It would seem that the most casual observer could see that the majority of babies are scarcely ever perfectly well.

The fretful, restless, crying, "mewling and puking" infant is the regular thing, apparently the normal. The new mother expects nothing else than at least a year of the greatest anxiety and worry. The father looks forward to sleepless nights, to trotting the baby, or walking the floor to some sadly mangled but apparently soothing melody. In fact, from the time it is born, the baby is the centre of the unremitting attention of the household. Now, this picture is, as you know, a feeble description of the real state of affairs.

The ordinary baby, as we see him everywhere, is evidently a nervous, unhealty specimen. He is really very much on the order of a very hysterical woman. It takes very little to throw him into a storm of passion, which is quite remarkable, as in his natural condition he should have very little of the emotional, for we know that all of the mental processes must be of a very low or immobile order. Nor is the fat, creased appearance of the infant by any means as good an indication of health and proper di-

* Read before the Lynchburg Academy of Medicine, July 9, 1895.

gestion as is his good nature. The generally genial, pleasant, jovial baby is undoubtedly the one with sound digestion.

I have decided complaint to make in regard to the ordinary routine treatment of the baby from birth.

In the first place, right after birth, the child is subjected to a very unnecessary, tiresome bath, vigorously scoured and improperly exposed. Why not let the little fellow, fatigued by his arduous travel, rest? Wrap him up in a warm blanket. Wash his face and head, if you will, to make him presentable, and let him go to sleep, rest sweetly, after his first exertion. The next day is time enough to remove the travel-stains. But that is opposed to all our experience.

In the next place, why permit him to tug at the breast perpetually? We know that proper digestion is only secured by allowing a certain interval between the taking of food. Many would say, "We do order an interval of two hours." But I am sure that a little thought will show that that is entirely too short a one. But they would say, "For a new born baby!!" I would remind them that the stomach of the new born child has comparatively feeble digestive powers, and if anything, the interval should be longer for him than for an older child. The fact concerning stomach digestion is, that after the milk is peptonized it is very slowly admitted into the duodenum, little by little. The mass does not at once rush out of the stomach, and then leave it empty; so that some time must elapse before the stomach is ready for another load. Three hours at least may be named as the proper feeding interval, even from birth, and the more punctually it is done the better will be the result, viz., a quiet, sleeping baby, without a trace of fretfulness.

Of course, if the mother's milk is not normal in character, her condition must be attended to. Constipation and hepatic derangement must be relieved, and good health insured by means of tonics of various appropriate kinds. If the milk is too scant, Apollinaris water may be given; or minute doses of pilocarpine, gr. $\frac{1}{30}$th to $\frac{1}{50}$th, may be given every

three hours or oftener, and the supply of milk generally becomes very abundant.

If the infant is, nevertheless, fretful, look after the umbilicus; see whether it is properly arranged and in good condition. Perhaps a pin in the intricate popular clothing of the child is at fault.

But if, after all, indigestion and consequent fretfulness does occur, pray let us abandon the ancient use of paregoric and Dewee's carminative, which drugs are, I believe, responsible for more chronic misery in infants than are any others. They are simply other forms of opium, and opium is a poor agent for correcting indigestion. It rather adds to it; and babies are simply human beings after all. They get accustomed to the use of opium. Their nerves will get as much unstrung, their stomachs as much upset, after a dose of the drug as we see to be the case with adults. And, to my mind, these two combinations are the curse of infancy. Bromide of soda is the ideal sedative, often along with carbonate of magnesia or Rochelle. The "sairey gamp" of babies is numerous in our midst, and as pronounced in her evil tendencies as Dickens' character. Dewee's carminative is her constant companion; that and a sugar-teat are her highest idea of insuring peace for every one. It's all wrong to have such a creature around us, and we know it's wrong, but our experience has been that she has been employed heretofore, and that some babies have survived; so we continue to let her pursue her work of devastation.

I think it highly probable from what I have seen of the methods of the regular reliable nurse, employed in our best families, that fully one-fourth of the mortality among infants is due to her unerring hand.

Nor do I think it at all likely that chewing up particles of food and transferring the mess to the baby, for peculiar gastronomic delectation, is likely to promote longevity or even to further good health. In this way disease is undoubtedly transmitted.

I protest against the confinement of new born babies in dungeon darkness, as it were, for the sake of their eyes. If

their eyes need protection, they have eye-lids for the purpose. But give the young baby light and sunshine. He will flourish under it just as will the young and tender plant.

I object to the daily morning bath, so conscientiously administered by the mother, regardless of the temperature. There is nothing to show that this scheme is conducive to health. The *argumentum ad hominem*, or rather *ad mulierem*, serves here. How would they like to be stripped and unceremoniously soused, as they do their babies? The baby isn't capable of shivering much, and certainly his teeth cannot chatter, for he has none. But I am confident that if he could express his feelings in words, there would be a lengthy flow of eloquent expletives. In fact, the ordinary house is not luxurious enough; the temperature is not sufficiently high to ensure the proper comfort for this bath. Bathe what parts need bathing, but spare the little fellow that regular daily bath. Once or twice a week is certainly often enough for bathing the entire person.

Children are generally kept too heavily clothed in the summer time, for fear of change in the weather. Common sense would indicate removing a piece of clothing when the day is hot, and when cooler weather comes, put it on again. Children are too much smothered in clothes, both by day and night, to ensure good health.

The saddest spectacle is to see the carelessness of most mothers with regard to food, as the child grows older. There is a recent law in France prohibiting solid food to children under one year of age. The offender may be punished by fine or imprisonment. While this may seem a rather extreme measure, still if it does nothing more than call the attention of the mothers to the fact that a miscellaneous diet is not the thing for the baby, it has done much good.

It is astonishing, too, to see how many very young babies receive their share of tea and coffee with the rest of the family. This can only result in sad dyspepsia and nervousness. I take up your time to further reiterate, and lay especial emphasis on the fact, that the lives of most babies show the symptoms of marked indigestion—namely,

the regurgitation of the ingested milk. It is so common a sight that nothing is thought of it; but the physician must realize that this vomiting is due to indigestion. It is true that the formation of the stomach is such that the baby brings up the milk without much effort, but all the same, it is evident that either the milk is not of proper quality, or that the stomach is in a catarrhal state. The general constipation of infants shows this. And above all, the great tendency to acute intestinal troubles further emphasizes the probability of chronic trouble. There cannot be much doubt about the microbic origin of summer diarrhœa; and doubtless there must be an entrance into the tissues, an inoculation, to bring about this most distressing disease. Certain it is, that when the mucous membrane of the stomach and bowels is sound, there is not much chance for any trouble of this kind to get a foothold; but the microscopic erosion incident upon chronic catarrhal states, along with the lessened power of the digestive secretions, pave the way for this unhappy disease.

A great deal is said about the heredity of neurotic affections; but to my mind, the nervous mother, by her lack of self-restraint in feeding the infant, is the great factor in propagating nervousness in the child. She cannot stand the fretfulness of her offspring, and gives it the breast at the slightest provocation. The result is indigestion, and consequent neurotic tendencies. Circumcision in the male, and freeing the clitoris of adhesions in the female, are matters of considerable importance, as doubtless some nervous phenomena, and even masturbation, are superinduced by the irritation of the long prepuce or adherent clitoris. This should be routine practice.

To my mind, lithæmia is frequent in children. The red stain on the napkin, and the uric acid infarction of the kidney (found in the post-mortem), indicate it, along with fretfulness and irritability.

It is curious how the general impression is amongst even physicians, that when a baby gets into a fit of uncontrollable crying, he must have pain in the abdomen. The stomach

feels hard, it is true, but the abdominal muscles must contract in the effort of crying. I do not doubt that a baby can have as many aches and pains as a grown person. He doubtless suffers with headache and backache, and we know that he has earache, and possibly his joints pain him sometimes. We certainly see young children who can talk, and express their grievances, complaining very much of pains in the knees—growing pains, as they are called—to which formerly little attention was paid, but which we now feel sure are rheumatic.

I cannot close this tirade without expressing my feelings in regard to the promiscuous kissing of babies. It is surely productive of some trouble. Tuberculosis is possibly caused quite frequently in this manner. The apparent heredity of phthisis receives a very plausible explanation in the maternal or paternal kiss. And it is not impossible for many other diseases to be inoculated in this way.

So after all, experience in these cases shows us the ordinary baby as he is, a very petulent, irritable fellow and hard to manage. But some common sense brought to bear on the question, indicates that the normal child is very different. Properly fed, clothed, and exercised, he is a very quiet, jolly, even-tempered animal, always ready for a good, long nap without restlessness. Put him down anywhere, he is happy. He doesn't have to be amused, he amuses himself.

And that kind of a baby means happiness for a multitude of mankind, as well as the raising of stout healthy men and women.

Tri-State Medical Society of Alabama, Georgia and Tennessee.

The three days' session in Chattanooga, beginning October 8th, 1895, promises to be about the best ever held. Able papers are in preparation for the occasion by a number of the members and distinguished invited guests.

Clinical Reports.

Fibrous Tumors of the Auricle—A Case.

By W. L. BULLARD, M. D., of Columbus, Ga.

PRACTICE LIMITED TO EYE, EAR, NOSE AND THROAT DISEASES EXCLUSIVELY

The accompanying cut is from a photo of the patient, and is illustrative of "one of the penalties attached to the barbarism of ear-rings." Jennette Warren, colored, married, age 27, Society Hill, Ala.; referred to me July 18, 1895. I report the case with no effort of introducing additional knowledge relative to pathology, etiology (in this, however, let me say that *questio vexata* at times asserts itself) or treatment, but solely to show the deformity which sometimes results from simply piercing the ears and drawing a thread, or introducing a piece of straw, as practiced by some, through the aperture. This patient has never worn ear-rings of any kind. The growths commenced, or rather were first noticed nine years ago—five years after the last piercing, she having had her ears punctured twice. Both tumors were excised at the same sitting. No anæsthetic was used. The lobule was tightly clasped with a pair of flat forceps, which from pressure rendered the excision almost painless as well as bloodless. The cut surface soon healed, and the patient gave evidence of gratefulness. In answer to the question, "Doctor, will they ever grow again?" I had to acknowledge that they frequently returned. It is said, and we have noticed during our visits at the various hospitals, both in America and Europe, that cases of this kind are extremely rare in the white race, but frequently seen in the negro. I have never seen a case in the male.

1408 *Third Avenue, July*, 1895.

A Case of Bright's Disease in a Child Without Apparent Cause—Death

By F. W. BRIGHAM, M. D. of Shrewsbury, Mass.

Bright's disease, without apparent cause, so rarely occurs in young children, that the report of a recent case may be of interest.

Edith, aged twenty-one months; parents both young and robust; no hereditary disease on either side. Edith had been from birth a strong, healthy child; never ill. On the 3d of April, 1895, her mother asked me to see the child, saying that she had noticed, for several days, "a swelling of the eyelids." The child, at this visit, was playing about the room, happy, and apparently well. I could find no symptom whatever of disease, excepting a slight puffiness of both eyelids, more of the right than of the left.

I saw the child again after one week. The swelling about the eyes had increased, and now there was slight swelling of her feet The child otherwise was apparently as well as ever. At this time a specimen of her urine was obtained. It contained much albumen, and the microscope showed renal cells, many granular casts, some epithelial casts, and blood corpuscles. From this time on, the disease made steady progress. The child rapidly developed general dropsy, though retaining strength and playfulness remarkably until the 20th of April, when she gradually became comatose, and on the 24th, died.

The case was treated with chloride of gold, tincture of iron, apocynum, demulcents, and baths. At no period, under treatment, was there any improvement. It seemed to be a typical case of Bright's disease, coming on insidiously, without known cause, and running its course without check to its natural end. As to the treatment, judging by results, it could not have been worse!

Women as Doctors, Dentists and Pharmacists in Germany.

The new regulations of the Ministry of Education admit women to the University at Berlin to study medicine, dentistry and pharmacy.

A Juvenile Case of Stramonium Poisoning.

By J. W. PRESTON, M. D., of Keystone, McDowell County, W. Va.

Since the season for the ripening of stramonium draws near, the following case may prove of interest:

Charley G., aged fourteen months. When first seen had slight symptoms of gastric distress, pulse rather full and face slightly flushed. Knowing the high esteem in which brandy was held by the family, and having no history of the case further than he had just taken a drink with his father, but little attention was given him.

Seen an hour later as he lay in his mother's arms, a glance was sufficient to indicate that his case was critical, and that it was necessary to make a clearer diagnosis. His face and neck were covered with scarlatiniform blotches; eyes staring with widely dilated pupils; pulse very quick, inclining to grow weak, respiration hurried and irregular; abdomen distended. His arms were in constant motion as though he would clutch some imaginary substance in the air. His mental condition seemed that of marked and complete delirium, rather otherwise than painful, so that upon the whole he presented a picture, to one uninterested, pitiable yet ludicrous.

After a persistent effort with mustard, ipecac and sulphate of zinc, his stomach was evacuated. From the number of stramonium seed ejected, proved beyond a doubt that he had crawled in among the weeds and eaten to repletion. A brisk purgative being at once given, a considerable quantity of seed were expelled from the bowels, after which I found a small quantity of brandy, together with an occasional sprinkling of cold water in his face, sufficient to keep the circulation and respiration in fair condition till the effects of the poison already absorbed passed off.

Treating him from a symptomatic standpoint, to my mind opium was contraindicated, for the most notable symptom in the sequel was an irresistible desire to sleep for the ensuing six hours.

American Electro-Therapeutic Association.

The Fifth Annual Session will meet in Toronto, Canada, September 3–5—Dr. A. Lapthorn Smith, President.

Department of Eye, Ear, Throat and Nose.

Conducted by JOHN DUNN, M. A., M D., RICHMOND, VA.,

One of the Surgeons to the Richmond Eye, Ear, Throat and Nose Infirmary; Professor of Diseases of the Ear, Throat and Nose, and Associate Professor of Diseases of the Eye in the University College of Medicine, Richmond, Va.

I. Monolateral Hæmorrhagic Retinitis, Resutilng from La Grippe, and Complicating Bright's Disease---Hæmorrhagic Glaucoma.

In 1893, I was consulted by Mr. C., aged 68, in regard to the removal of a mature cataract of his left eye. This cataract had been present about three years. Mr. C. added that lately the sight of his right eye had suddenly become very bad, and while he could distinguish the outlines of objects, this eye was practically useless. Examination of the fundus showed what I took to be a typical case of severe albuminuric retinitis in its early stages. Examination of the urine apparently confirmed my diagnosis, for it was loaded with albumen, which being the case, I declined to remove the cataract, although the light tests for this eye seemed to indicate the preservation of a considerable degree of vision. Mr. C. returned home to receive treatment for nephritis. The retinal changes were so extensive and the urine so charged with albumen that I wrote Mr. C's physician that there was little to hope for in his case.

I did not see Mr. C. again until the spring of 1895, when he again requested me to remove the cataract from his left eye. *The right eye now showed absolute glaucoma, hæmorrhagic.* The anterior chamber was obliterated; tension + 2; minute hæmorrhages over surface of the iris; vision nothing. The left eye showed a hypermature cataract, the appearance of whose capsule suggested chalky deposits. The results of the light tests for this eye were excellent, both when applied for direction and quantity. The tension of the eye was normal; its appearance healthy.

Accordingly, after an understanding with Mr. C. in regard to the possibilities of failure, the cataract was extracted, the lens capsule coming away entire. Iridectomy was done, as offering fewer complications should any difficulty be experienced in extracting the lens. Vision immediately following the operation was excellent, and there was nothing to be remarked about the operation, save that where the

conjunctiva was grasped in the steadying forceps there appeared a large subconjunctival hæmorrhage.

Two months after the operation, V=$\frac{16}{40}$; with a + 10 D. sph. c. + $2\frac{1}{2}$ D cyl. ax. 120°. That the vision was not better I attributed to the amount of astigmatism, resulting from the fact that the corneal wound had healed with some difficulty. Examination of the fundus revealed no changes in the retina or choroid; the nerve was unduly pale. Vessels apparently normal.

If the retinal changes, O. D., observed in 1893, were evidences of albuminuric retinitis, then this case is interesting as showing that *one of the sequelæ of albuminuric retinitis is hæmorrhagic glaucoma.* It is possible however, that the retinal changes were not the result of albuminuric retinitis, although the urine was loaded with albumen, but of inflammation of the retina due to la grippe. There were no evidences of ciliary irritation in 1893.

That hæmorrhagic retinitis follows an attack or attacks of la grippe, although whether the two stand in any causal relation is another question, the following two cases prove:

In the spring of 1893, I examined the eyes of Mrs. P., aged 66. There was present double hæmorrhagic retinitis. The usual troubles had been noticed following upon an attack of la grippe, and had existed some weeks when I first saw the case. The eyes were unequally affected, the right eye showing the greater number of hæmorrhages and areas of retinal degeneration. Kidney changes were suspected, but repeated examinations of the urine failed to demonstrate their existence. In both eyes, the region about the macula showed the most marked changes. In the right eye, central vision was destroyed; in the left, the changes were perimacular. In this case, the hæmorrhages gradually disappeared, requiring, however, months for their absorption.

In the spring of 1895, Mrs. P. again had la grippe. It was followed in about ten days by a second attack of hæmorrhagic retinitis. *In this attack, only the right eye was affected,* and the attack was a slight one. The small hæmorrhages could be plainly seen to follow the lines of minute retinal vessels. In one place, where vein and artery crossed, there was sufficient œdema to hide for about ten days both vein and artery at this point from view. The treatment con-

sisted in a teaspoonful of the following prescription three times a day:

℞ Hydrarg. chlor. corros..... gr. j
Tinct. cinchonæ..... ℥iv—M.

Mustard plaster used to keep temporal region irritated. Value of this latter questionable.

In about six weeks, the hæmorrhages had disappeared. The changes in the fundus of the right eye are most extensive. Up to the present time, there had been no further changes in the left eye, which retains excellent central vision.

Prognosis in this case doubtful; but it is likely that, sooner or later, hæmorrhagic glaucoma will develop in O. D.

Case III.—Mr. James P., aged 54, attack of la grippe, followed in about two weeks by blurring of vision O. D., at which time, Feb. 9th, 1895, V. O. D.$=\frac{18}{30}$. There then existed minute hæmorrhages in the neighborhood of the macula, and also in the region of the superior and inferior temporal retinal arteries to the inner side, above and below macular region. Vision remained $\frac{18}{30}$ until Feb. 18th, when it fell to $\frac{18}{150}$. Examination revealed further extension of the hæmorrhagic areas with some œdema.

On April 22nd, patient had so far recovered that V$=\frac{18}{30}$. Most of the hæmorrhages had been absorbed, leaving retinal scars to locate their former position.

In the case of Mr. C., we have further evidence tending to prove that there is an active lymph current from the fundus passing forward and discharging itself through the canals of Fontana; that the channels along which the lymph flows are sufficiently large to allow the passage not only of healthy lymph, but of lymph charged with foreign particles large enough to cause obstruction of the smaller channels in the filtration angle. Where these foreign particles are the debris from the rupture of diseased blood-vessels, their accumulation later in the filtration angle results in glaucoma, because of the inflammation they cause.

II. Description of the Aspergillus Glaucus.

The aspergillus glaucus has often been described in the literature both of medicine and mycology. As the following description is somewhat fuller than any we have been able to find in the works at our command, and as it tends to clear up one or two points which we believe have erro-

neously led one, at least, of the best known of the medical mycologists to describe as a separate species of aspergillus what is only the aspergillus glaucus seen at a peculiar angle under the magnifying lens, it has been thought worth the while to produce the accompanying remarks The aspergillus fungus described in this article was found growing upon a scab, the result of the application of chromic acid to an hypertrophy on the septum nasi of a gentleman suffering from diabetes. The history of this case has been published in Knapp's *Archives of Otology*, April, 1895. Figs. 3, 4, 5 and 6 are from drawings made for me by Mr. W. J. Cowardin, of Richmond, Va.

Microscopical Description, etc.—Spores.—When shaken from the agar tube upon the slide and examined (diam. 480) the spores are roundish, not, however, perfectly circular in outline; more or less transparent; their contents appearing as irregular dark lines not distinctly granular (Fig. 1); no distinct nucleus. The individual spore is yellowish; en masse, they are a dirty green. Spores, when thoroughly dried, lose their regular outline, assuming various shapes, kidney shaped, squarish, outlines indented, etc. The spores obtained from a new growth are much more nearly of one size than from a growth of several weeks' existence, where the largest spores are from five to six times the diameter of the smallest. (Fig. 2.) Examined in liquor potassii or glycerine, the spores become spherical; their contents more or less granular; they show, however, much variation in size. In good specimens, the conidia can be seen to be catenulate, smallest at the end of the chain next the sterigma bearing them, becoming gradually larger to the end of the chain. These chains of conidia are easily separated from their attachment to the sterigmata, and it sometimes happens that many specimens have to be examined before they can be demonstrated in position.

Sterigmata.—These vary much in size and shape, dependent upon the age of the plant; in young, rapidly-growing plants they are somewhat cylindrical, tapering slightly where they take their origin from the dilated extremity of the hypha, and at the end from which the conidia spring. In some young plants, the distal extremities of the sterigmata are cone-shaped, giving under the microscope the appearance shown in Fig. 6. By minutely adjusting the focus, the sterigmata can be seen to consist of narrow, elon-

gated cylinders, their distal extremities drawn out into acute angles. At this period, no conidia have been developed. In older plants, the sterigmata are sometimes in appearance something like the neck of a bottle. The sterigmata are developed, as a rule, only from the upper three-fourths or four-fifths of the fruit-head. In some plants, they may be seen to at first originate only from the extreme upper part. The statement that they spring from all the upper surface at once does not hold good for all the fruit-heads. In some of the oldest plants, there spring from the limiting membrane of the hyphal vesicle huge, irregularly pear-shaped bodies, which in turn may give rise to two or three or more sterigmata, which in turn produce conidia. (Figs. 8 and 9.) These pear-shaped bodies are often several times larger than many of the hyphal extremities bearing both sterigmata and conidia. In the older plants, it is not difficult to rub the sterigmata from the surface of the hyphal vesicle. In the younger plants, it is rare to find in the field loose sterigmata.

That it is the rule for the sterigmata of the younger fruit heads to branch, is doubtful. It is, however, very likely that this is the case with many of the sterigmata of the oldest plants, inasmuch as it occurs commonly enough in the sterigmata of the older fruit-heads. The great number of sterigmata about the hyphal vesicle makes it impossible to demonstrate this fact satisfactorily, even though in most specimens at first glance this seems to be the rule. Careful adjustment of the focus, however, shows that the branches are the result of pressure from the cover-glass.

Fruit-Bearers.—These are club-shaped, rounded at the top; vary much in size; the smallest size, from the time they begin to give off sterigmata, are pigmies compared with some of the older fruit-heads. They give off the sterigmata only from the upper three-fourths or four-fifths; seen from above, the fruit-bearers are circular in outline. The hyphal vesicles of some of the older specimens are almost circular in form. Siebenmann (*Archives of Otology*, Vol. XVIII, Nos. 3 and 4) says, in speaking of the aspergillus nidulans, that "the top of the receptacle is frequently cup-shaped, sometimes as though torn off, so as to produce the impression of looking into a funnel from above." This appearance may often be noticed in examining specimens of the aspergillus glaucus; but as no evidence of the cup-shaped appearance could be found when the receptacle was viewed from the side, and it was sought for, I am inclined to think

this appearance is a result of the direction from which the fruit-head is viewed; is an artefact.

Mycelium.—Varies as much in appearance, according to its age, as do the fruit-bearers; the creeping, youngest, and most delicate portions appear under the microscope as delicate, narrow, branched, here and there irregularly dilated, hyaline tubes in which lie minute, spherical, highly-refracting cellules; the erect, older mycelium shows in many instances but few or none of these cellules, or any striation, being merely long, branching tubes with delicate walls, divided here and there. The branching of the mycelium appears to be indefinite; in agar, the mycelium may be seen to grow many millimetres in advance of the spores, and appears as a whitish, leathery substance, covering the surface of the agar; later, this mycelium becomes covered with spores, giving it first a yellowish then a distinctly dirty greenish color. The older the growth the more profuse the spores, the more distinctly greenish the color of the fungous mass. Examined under a two-inch magnifying lens, the hyphæ are seen to be erect, projecting with their fruit-heads beyond the mycelium.

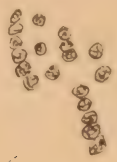

Fig. 1.—Showing spores from young plants immediately after they have been shaken upon slide; examined without fluid.

$\frac{1}{480}$

Fig. 2.—Showing spores from old plants, examined as above; at 4 can be seen conidium sending off mycelium, earliest stage. Magnified 480 times.

$\frac{1}{480}$.

FIG. 3.—Showing mycelium; hyphæ, bearing fruit-heads; sterigmata and conidia. 100 diameters.

FIG. 4.—Showing *a* seen in Fig. 3 magnified 480 diameters. Here sterigmata and conidia can be seen. Glycerine preparation. It is very unusual for fruit-heads to appear as close together as in Fig. 4. More commonly each hyphal vesicle has a long hypha. Vid. Fig. 3.

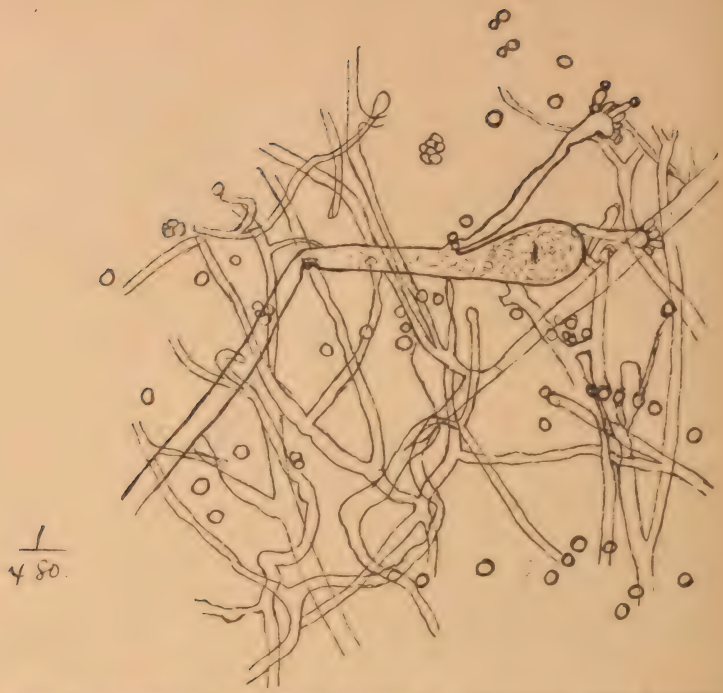

FIG. 5.—Shows old mycelium, spores, etc. Glycerine. 480 diameters.

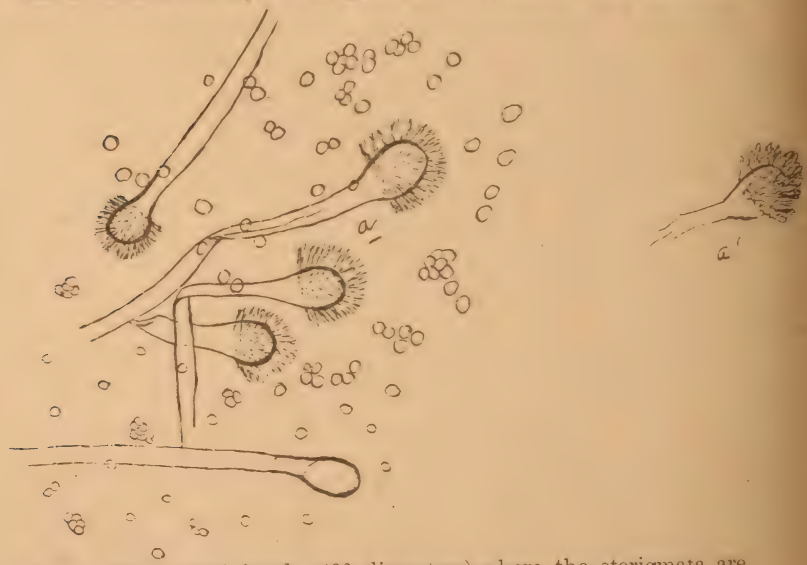

FIG. 6.—Shows fruit-heads (480 diameters) where the sterigmata are extremely numerous, elongated, and at their distal extremities acutely conical. A striking appearance: a′ shows fruit-head, the focus being slightly changed.

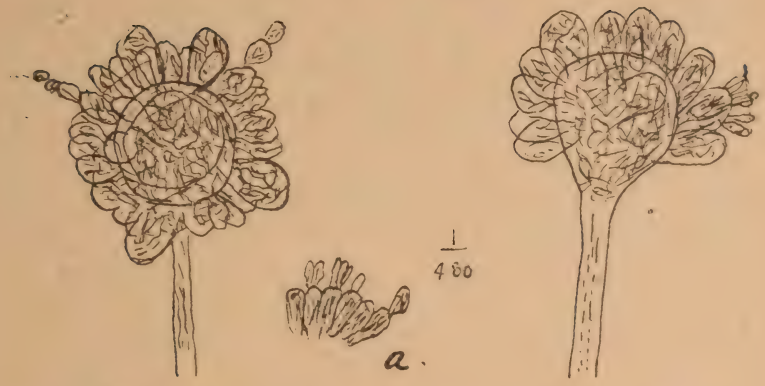

FIG. 8. FIG. 9.

FIGS. 8 and 9.—Two old fruit-heads. Magnified 480 diameters. Showing to what sizes the fruit-heads may attain. In Fig. 8 the fruit-head is seen from above; in Fig. 9 the side view is given. (Drawing from two different specimens). Fig. 8 a′ shows a number of sterigmata which have been separated from the hyphal vesicle, old plant; shows how the primary sterigmata produces secondary sterigmata, which in turn produce conidia. In many of the older fruit-heads the sterigmata can be seen of same size, or larger than shown in Fig. 8 a′.

One of the Values of Retinoscopy.

It not infrequently happens in old cases of optic nerve troubles, choroiditis, retinitis, or a combination of these affections, that the patients show ocular fatigue symptoms, local and reflex, which cannot be attributed to any active trouble of the fundus. Apparently neither plus nor minus glasses improve distant vision; or, if they do improve the vision, the improvement is so little that glasses seem unnecessary. Observation has, however, taught me that in the cases mentioned above patients often receive great benefit from wearing glasses which fully correct the ametropia, be it little or great in amount. Naturally, in such cases, the subjective tests are often of a minimum value. The trial cases and the ophthalmometer cannot be relied upon to measure refractive errors where the crucial test of actual vision cannot be applied. It then falls to the part of retinoscopy to decide the actual degree of myopia or hyperopia, and the accompanying astigmatism.

The following rule, then, seems to be worthy of conside-

ration: *In all cases of impairment of vision resulting from inflammation of the optic nerve, retina or choroid, the refractive error should be carefully measured by retinoscopy, and glasses correcting this error should be prescribed.*

These glasses are to be worn constantly. The amount of improvement of vision obtained at the time of the examination by the use of these glasses is not to be our criterion as to whether the glasses will be of any benefit or as to whether glasses are to be worn at all. The actual refractive condition of the eye is alone to decide this—if there exist a refractive error, correct it. This rule, if followed, will be the occasion of giving great comfort in many cases where the combination of refractive error and vision impaired by disease renders doubly difficult the struggle for clear vision.

Congenital, Monolateral Fistula of the Inferior Canaliculus.

In the *Archives of Ophthalmology* for April, 1895, I reported a case of congenital, monolateral fistula of the lachrymal sac, situated above and parallel with the inferior canaliculus. In this case two needle probes could be passed at the same time, one through each canal, into the sac, *i. e.*, through the normal canaliculus and the fistulous canal.

The case here to be reported occurred in the case of Miss A., aged 23. Situated to the inner side of the normal inferior puncture can be seen a small slit through which a needle probe passes after a course into the inferior canaliculus, and thence into the sac. If now a second needle probe be selected, it can be passed through the normal puncture into the canaliculus and thence into the sac. The two needles can be felt lying side by side in the inferior canaliculus.

In this case the fistula opens into *the inferior canaliculus;* in the former case the fistula opened directly into the lachrymal sac. In the former case, the patient was annoyed from time to time by the accumulation of tears in the corner of the eye.

In the case of Miss A. this does not occur. This fact goes to substantiate the suggestion made in the report of the former case, that the accumulation of tears might be due to the fact that the internal end of the secondary, *i. e.*, fistulous

canaliculus, as well as its walls, were unprovided with elastic tissue to prevent the regurgitation of tears during the contractile efforts of the sac walls. This second case, where there is but one opening into the sac for both the primary and secondary canaliculi, for the fistula runs a short distance parallel with and above the canaliculus before opening into it, there is no regurgitation—which goes to prove that the regurgitation was due to an imperfect arrangement of the internal end of the secondary fistula.

Loomis' Practice of Medicine---Announcement.

For nearly a year before the death of Prof. Alfred L. Loomis, he was engaged in rewriting—thoroughly revising—his work on *Practical Medicine*, and had nearly completed it. This *Ninth Edition* omits discussion of theories because confusing to the student, and the size of the volume will be thereby reduced to about 1,000 pages. It is in every department up to the standard of the latest theories of practice. The publishers, Messrs. Wm. Wood & Co., New York, expect to have the work ready in a few weeks.

One Hundred and Forty Years Old?

Dr. William Hotchkiss died in St Louis, Mo., April 1st, 1895. A letter received from his old Virginia home over a year ago said that he was born there in 1755. His Masonic record has been traced back one hundred years, showing conclusively that he was at least 121 years old. He went to St. Louis forty years ago, and has always been known as the "color doctor." In his peculiar practise of medicine, he termed his patients members of his "circles," and claimed to treat them by a magnetic process.—*Nat. Pop. Rev.*, August, 1895.

Longevity of Members of the Medical Society of the District of Columbia.

The *National Medical Review* states that, out of 400 members of the Society, only three have passed the age of 70 years, and only thirteen have reached that of 65. Of the deceased members of the past seventy-five years, only twenty-eight reached the age of 70 years.

Department of Electro-Therapeutics

Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va.
Member of Medical Examining Board of Virginia, etc.

Therapeutic Indications of the Sinusoidal Current (Continued).

The sinusoidal current has been found by Dr. Kellogg to be of *great use in the after-treatment of cases in which it was necessary to shorten the round ligaments, or to perform other operations for the correction of displacements* not curable by non-surgical means. The neglect to employ measures for developing the normal supports of the uterus and ovaries, he believes to be a cause of the general failure of the operation. In more than 300 operations, he has had less than 5 per cent. of failures. This success he largely attributes to the use of a slowly alternating sinusoidal current for weeks after the operation to develop the abdominal muscles, so that they are able to hold the small intestines out of the pelvis, thus relieving the pelvic organs from unnatural strain.

In cases of facial paralysis, this current affords an admirable means of exercising the muscles and stimulating the nutrition of the paralyzed structures.

In the treatment of spinal curvatures, due to weakness of the muscles of one side, or irregularities of muscular development, the current is also valuable. The current affects involuntary as well as voluntary muscles, and is of great service in cases of *constipation*—one pole being applied to the rectum, the other to the abdominal muscles. It serves here the double purpose of awakening the nervous sensibility of the rectum, and at the same time rapidly increasing the strength and efficiency of the abdominal muscles.

It is also of great service in *dilatation of the stomach.* By means of a stomach electrode, one pole is applied internally, the other externally; vigorous contractions are readily produced. The stomach in time diminishes in size. No painful sensation is produced by the current used for this purpose.

It is also useful in cases of *motor insufficiency of the stomach without dilatation.* It also seems useful as a stimulant of the functional activity of the stomach through a probable action on the sympathetic nervous system.

A rapidly alternating current is one of the most efficient means for the relief of the peculiar sensation known as *heaviness*, so often complained of by dyspeptic patients. This sensation is due to a perverted condition of the sensory nerves of the stomach. Its relief by a rapidly alternating current is an evidence of the penetrating power of this current.

Employed with rapid alternations of 3,000 to 7,000 per minute, it is the valuable electrical application for *relieving hyperæsthetic conditions of the abdominal sympathetic ganglias.* It is signally efficacious in *relieving pains beneath the shoulder blade and in the lumbar region*, so often erroneously attributed by patients to a diseased liver, but which are, in a majority of cases, due to a congested and irritated condition of the abdominal sympathetic ganglia.

When used for effects on the nervous system, a current of high velocity is most useful. The potential of this current is so great, it can only be used by the aid of a good and well-graduated rheostat of large resistance. When judiciously employed, it has been found by Dr. Kellogg to be more effective than any other form of current in the relief of pain and all other symptoms arising from a hyperæsthetic state of the nerves or nerve-centres. It is specially valuable in the relief of various disorders or sensation included under the general term *paresthesia.* The peculiar numb, tingling, crawling, and other sensations of which neurasthenics often complain, are almost certainly relieved by it. The same is true of the great variety of peculiar head symptoms complained of by these patients, especially women suffering from pelvic diseases. Most of these symptoms, Dr. Kellogg thinks, are the result of reflex disturbances of the abdominal sympathetic, which seems to be specially favorably influenced by the sinusoidal current.

Dr. Kellogg states that he has never seen the slightest

unpleasant effect from the application of this current, while it is not an uncommon thing to find patients who seem to possess an idiosyncrasy against the faradic, and, in some instances, against the galvanic. By careful management, the electrode may be applied to the head, and a current capable of producing decided effects passed through the brain without the slightest pain or other than the most agreeable sensations.

An important advantage claimed for the sinusoidal current is that in its employment one may deal with elements as accurately known and as capable of being accurately dosed as in the use of the constant current. The Kellogg apparatus is provided with a permanent magnet, so that the only element which it is necessary to determine is the rate of motion, which is easily ascertained by means of the indicator commonly employed for this purpose. In this respect, the sinusoidal current possesses an immense advantage over any other form of faradic current.

Drs. Gantier and Larat, writing upon the therapeutic uses of the sinusoidal current (*Rev. Internat. d'Electrotherapie*, May, June and July, 1895), add their experience as follows:

In painful and congested conditions of the pelvic organs, the sinusoidal current is a precious resource. *Ovarian pain* is quickly and often instantaneously relieved by it. It is also very valuable in the treatment of *vaginismus*—one pole being placed against the orifice of the vagina, the other upon the abdomen. In the case of males, we believe from our experience that *chronic congestions and inflammations of the prostate* can be advantageously treated with this current. One pole should be applied within the rectum, the other upon the abdomen. In *localized neuro-muscular affections*, such as neuralgia, paresis, and muscular atrophy, the current affects a change not to be despised, but its use should be limited to those cases which present no signs of the phenomena termed degeneration. When this exists, the continuous current is the only one which should be used. When contractibility exists to a slight degree, the sinusoidal current fatigues the muscle less than the induced current,

is better borne, and more effective. In *neuralgia*, in the treatment of which the use of the faradic current is classic, we consider that the sinusoidal current is infinitely preferable and much more certain.

In speaking of the effects of hydro-electric baths in which the sinusoidal current was employed, the authors state that they have obtained the following effects from the baths, which varied in duration from fifteen to forty minutes, according to indications. There was generally an increase in appetite, a feeling of general elasticity, and after a regulation of the bowel functions when these were disturbed. Sometimes, in the case of nervous persons, the first baths caused some general excitement, with disturbed sleep and quickened pulse, but this always disappeared after three or four baths. The sinusoidal current appears to be a good general stimulant of the organic functions; it is a tonic of the same general character as exercise in the fresh air, salt baths, etc. The electric bath, it is believed by the authors, has not only a tonic effect, but tends to restore to normal conditions vitiated nutritive functions, and exerts a good effect upon some diathesic states.

A simple illustration is found in its action in cases of symptomatic chloro-anæmia and spinal neurasthenia. In symptomatic chloro-anæmia, the effects are almost immediate. The digestive and intestinal functions are restored, shortness of breath and palpitations disappear, and the menses are often re-established where there is amenorrhœa. These improvements have been brought about without the aid of medicines.

In cases of neurasthenia, the baths have a different effect in cerebral and spinal neurasthenia. The *cerebral symptoms*—inability of work, pain in the nape of the neck, want of memory, weakness of vision, diverse fears—are not benefitted, with the exception that insomnia is sometimes relieved.

The *spinal symptoms*, on the other hand—the weakness of the lower limbs, girdle pains, and genital weakness, when

not accompanied with true spermatorrhœa, which is always rebellious to treatment—are always greatly benefitted.

The authors have not as yet tried the baths in cases of true impotency.

The effect of the electrical bath in other diseases—as, for example, obesity, lymphangitis, scrofulosis, rachitis, and myopathic muscular atrophies—explains its actions as that of a tonic and augmenter of metabolic changes.

In certain cases of obesity, it brings on a rapid falling off which is not always transient. We have had patients who were reduced, and who remained thin. Such, however, was not always the case.

Lymphangitis, both in children and adults, is ameliorated in a curious way. The same is true of rachitis, and of myopathic muscular atrophies. Remarkable results also have been obtained in two cases of hypertrophic myopathy.

Rheumatic manifestations of a muscular nature, as lumbago and torticollis, have been permanently cured by one or two treatments. Sciatica and other nervous rheumatic manifestations do not yield as readily, but we believe that no other one method of treatment can be compared to the sinusoidal current in the relief of these affections. In simple sciatica (*i. e.*, of non-rheumatic origin) generally yielded to from fifteen to thirty treatments.

Gout is generally favorably influenced, especially when the treatment is kept up during the interval between attacks. During attacks, the treatment reduces the articular swelling and quickly lessens the pains.

The most remarkable and inexplicable action of the sinusoidal current is its truly curious one on eczema. Our first patient was a lady affected with chronic rheumatism and eczema of thirty years' standing. The current was in the beginning resorted to to try to relieve her pain, and to better her general condition, which was precarious—no thought being had of the eczema. The eczema, which do not forget was of thirty years' standing, disappeared sooner than the pains. Struck with this result, we have treated the largest possible number of cases of eczema, and have

had to deal with only rebellious cases, and yet cure has succeeded cure. There is, of course, differences in results, according to the form, intensity and duration of the affection, and we have had some failures. The action of the current in eczema is an action upon general nutrition and not a local one. Eczema of the face is cured as well as eczema of other parts which are submerged in the bath, and consequently traversed by the current. A diminution of the pruritus is often immediate, and the patches pale and disappear. We have been asked by dermatologists how long these cures last. It is difficult to say, as our experience dates back only four years. Some of our patients have remained cured three, two and one year. Relapses do occur in some cases, and when they do it is in some other region than the one orignally attacked. We have observed only one case of return in loco. We have also had some excellent effects from the use of the current in cases of urticaria.

The William F. Jenks Memorial Prize of $500

Has been awarded to Dr. A. Bronders, 162 Madison St., New York, for the best essay on "Infant Mortality during Labor, and Its Prevention." The essay on the same subject by "Vade Mecum" was reported on by the Committee as "highly meritorious." Dr. Horace Y. Evans, Philadelphia, was Chairman of the Prize Committee making the award for the College of Physicians of Philadelphia, August 1, 1895.

Woman's Medical College in Russia.

Le Progres Medical, June 1st, states that on May 4th the Russia Council of State voted unanimously for the establishment of a medical college for women in St. Petersburg. Matriculates must have a knowledge of Latin and Greek. The course of medical studies will be exactly the same as that pursued by the Faculty of Medicine in Russia—extending over five years.

The Renz & Henry Pharmacal Co., Louisville, Ky.,

Has been acquired by Mr. Frank A. Henry, Jr.; whereas Mr. Fred. J. Renz has bought up all interests in the firm of *Renz & Henry*.

Analyses, Selections, etc.

Treatment of Diabetes Mellitus by Uranium Nitrate.

The *Medical Press*, August 14, contains an abstract of a paper on this subject by Samuel West, M. D., F. R. C. P., Assistant Physician to St. Bartholomew's Hospital, read before British Medical Association, August 1, 1895. Little is known of the physiological action of uranium except that, in poisonous doses, it acts as an irritant, and ultimately produces albuminuria and also glycosuria.

To test the effect of the drug, it was administered to some outpatients having diabetes. It relieved the thirst in all, reduced the quantity of urine, and improved their general health. Two diabetics were then chosen for systematic study of its effects. They were placed on a fixed diet and under constant conditions, so that the only variation in their condition should be the administration or withholding the drug.

Case I.—Male; age 22. In hospital. Ordinary diet three weeks or so before uranium was administered. This produced some improvement; percentage of sugar fell from about 8 to between 6 and 7, and quantity of urine fell from average of 7 pints to 5. Uranium nitrate was now begun in small doses. Quantity of urine fell to an average of 3 pints. Percentage of sugar also fell to about 3. The drug was given without intermission for about two months, the dose having been gradually increased up to 15 grains three times daily, when the percentage of sugar was only about 1. Then drug was stopped. Percentage of sugar again rose to about what it had been. Uranium was readministered, and the dose gradually increased to about 7 or 8 grains five times daily, when the percentage suddenly fell to about 3, and, with continued use of the drug, it was finally reduced to under 1—indeed under ½ per cent.—where it remained nearly four months. All this time the patient gained health and weight—being nearly one stone [14 pounds] heavier than when treatment was begun. About Christmas, possibly in connection with the festivities, he did not seem so well; the percentage of sugar had run up between 7 and 8, and shortly afterwards reached 10 per cent. for one or two days. Uranium was again administered. In about a month, the percentage rapidly fell until it again became about ½ per cent. The drug was reduced to about 5 grains

daily. He left hospital a little later, when the percentage was between 2 and 3, but he was very well and much heavier than when he was admitted.

About four months later, during which time he had taken no medicine, he was seen. Percentage again between 6 and 7. Uranium again given; within a month percentage fell to 4. At next Christmas percentage rose again, when uranium was given in 15 grain doses. A month later, when the patient was last seen, the percentage had fallen to a little over 1.

Case II.—Lady, æt. 45. Under treatment before uranium was begun, was passing 1,800 cc. of urine, with between 2 and 3 per cent. of sugar. Uranium very soon reduced quantity to about 1,000 cc., and later, percentage of sugar fell to 1, and then under. After using the uranium about two months, *sugar entirely disappeared from urine*, and remained absent, with exception of one or two odd days, for more than four months. Then, though uranium was continued, percentage again rose to 2. The patient was a good deal worried by domestic bothers, as well as irregularities of diet. But under uranium and removal of worries, amount of sugar fell again, but did not entirely disappear.

In February, the patient was ill with influenza. Uranium was stopped and not resumed. The influenza caused great relapse in diabetes; urine increased largely, and percentage of sugar rose over 3; but this fell as she recovered from influenza, although quantity of urine remained large.

Six months later, she was feeble and ill, though much better than she had been. Sugar between 2 and 3 per cent.; quantity of urine about 1,600 to 1,800 cc. daily. Will resume uranium by and by.

Case III.—Female. In hospital. Had been treated in usual way, but chiefly with codeia. She had reached a condition of equilibrium, and had been passing about 7 per cent. sugar for many weeks. Then she was given uranium nitrate, 5 grains, without effect, and later, 10 grains three times daily, which latter rapidly reduced amount of urine from 6 to 4 pints. Dose then increased to 15, and then to 20 grains, when percentage fell; on leaving hospital, it showed only 4 per cent. sugar.

Conclusions.—It causes first a great reduction in the amount of urine, and subsequently a great fall in the percentage of sugar. On withholding the uranium, both quantity of urine and percentage of sugar increased. On beginning the drug again, both once more fell—in one case to

normal. While uranium does not cure diabetes, it seems to have a power of controlling the secretion of sugar greater than is possessed by any other drug. Uranium may act by checking amylitic digestion. It may prove most useful as an adjuvant in those cases of diabetes in which diet largely influences the amount of sugar, so as, in such a case, to lead even to the complete disappearance of sugar from the urine.

Oxygen Treatment of Chronic Ulcers.

Dr. Chas. A. L. Reed, of Cincinnati, attended the British Medical Association in London, July 30th–August 3d, 1895. In his letter to the *Cincinnati Lancet Clinic*, August 24, he says: One of the most interesting demonstrations was that by Dr. Stoker, of Dublin. It consisted in the application of oxygen gas to the treatment of chronic ulcers. The treatment consists in the incarceration of the affected part in a chamber charged with oxygen during several hours of each day. The ingenius mechanism and a number of illustrative cases were presented. Dr. Reed examined a case of large annular ulcer of the leg, which had defied all sorts of treatment for years in the London hospitals, which was completely cured by the new treatment in two months. Other cases no less startling were present. One interesting test case was that of a woman with a very large ulcer on each leg—each practically like the other. One was being subjected to the modern bichloride treatment; the other leg to the oxygen treatment. The former—the one being treated by bichloride—was free from all germ life, none being demonstrated by culture processes; while the latter—the ulcer being treated with oxygen gas—abounded in practically all germs of the pathogenic variety. Yet the latter ulcer was healing with twice the rapidity of the former.

This fact would indicate that the oxygen is not a germicide, and that the presence of pathogenic germs in an ulcer is not inimical to the process of repair.

Oil of Cajeput in the Treatment of Pneumonia,

Is the title of a paper by George Foy, F. R. C. S., of Dublin, in *Medical Press*, August 14, 1895. Cajeput has been known as a good diffusible stimulant and sudorific over 200 years. Powdered cajeput leaf with powdered mistletoe leaf long enjoyed reputation as a cure for epilepsy. In 1861, M. Delvaux recommended cajeput for chronic affections of the respiratory organs, claiming that it led "to diminution of

the dyspnœa and cough, and an easier expectoration, while appetite returns."

During the recent epidemic of influenza, Mr. Foy used it as a diffusible stimulant in asthenic pneumonia, for which he thinks cajeput oil a remedy particularly suited. It is as quick and powerful a cardiac stimulant as alcohol or ether. Like them, it relieves the heart by dilating the systemic arterioles, but, unlike them, it does not diminish the sensitiveness of the respiratory centres.

In illustration, he cites the case of an artisan, æt. 47, who had double pneumonia following influenza. The patient lay in bed, unable to speak, bathed in a clammy sweat, deeply cyanosed, breathing about 65 per minute, with pulse small, feeble, irregular; temperature 104.2°; he seemed at the point of death. Mr. Foy prescribed at once six-drop doses of oil of cajeput in mucilage, repeated at short intervals. In seven hours, cyanosis disappeared; the skin was ruddy, feet warm, with warm perspiration over the body; pulse full and strong; normal heart sounds regained; respirations reduced to 33, and the patient spoke without difficulty. Next morning, the posterior lobes of the lungs were still dull on percussion; auscultation revealed tubular breathing over a large area; considerable expectoration of typical pneumonic matter. He added quinia and tincture of nux vomica to the cajeput oil, and in a fortnight the patient resumed his ordinary work.

Dr. Andrew H. Smith, of New York City,

Has removed to No. 15 East 38th Street, and proposes hereafter to devote his attention mostly to chest diseases, in which field of consultation work he has gained eminence. He is now engaged in the preparation of the article on *pneumonia, etc.*, for the *Twentieth Century Practice of Medicine.*

Dr. Ella C. Barnes,

Of Birmingham, Ala., is assistant to the Chair of Diseases of Children in the Birmingham Medical College. We believe this to be the first instance of a like appointment of a lady in any college in the South.

Book Notices.

Twentieth Century Practice. *An International Encyclopædia of Modern Medical Science.* By *Leading Authorities of Europe and America.* Edited by THOMAS L. STEDMAN, M. D., New York City. *In Twenty Volumes.* VOLUME III. *Occupation Diseases, Drug Habits, and Poisons.* New York: William Wood & Company. 1895. Cloth. Royal 8vo. Pp. 639.

As each volume of this great work is issued, the purchaser finds himself adding greatly—almost incalculably—to the value of his library. He becomes better and better pleased with his quarterly investment of five dollars as he sees the growth of material at hand. Just about enough time elapses between each three months for the practitioner thoroughly to read and digest the information contained in the last published volume, and thus he becomes steadily better prepared to assume the duties of his vocation. This Volume III, as the title tells us, is taken up with "Occupation Diseases, Drug Habits, and Poisons;" although, in the order of their consideration, we find them thus arranged: Alcoholism and Drug Habits, Shock and Collapse, Sea Sickness, Mountain Sickness, Osteomalacia, Heat-Stroke, Frost-Bite, Disease of Occcupations; and then come Poisons. Such an Encyclopædia as this cannot be reviewed within the space set aside for a book notice; but it will everywhere be regarded as the standard work of this century. The authors for the work are well selected—being in this volume, Dr. Norman Kerr, of London; Dr. George F. Shrady, of New York; Dr. Albert L. Gihon, Medical Director of U. S. Navy; Dr. William T. Councilman, Boston; Dr. Beaumont Small, Ottawa; Dr. James Stewart, Montreal; and Dr. James Hendric Lloyd, Philadelphia. Each article is a thorough treatise on the subject-matter included in its title; so that we have not the disposition to mar any part by criticism or praise of another part. Yet, we may remark that Dr. Lloyd's contribution on "The Diseases of Occupation" seems to be opportune just now, when there are so many who seek to overwork their employees in strained positions of body or limb—covering about 180 pages. The digest of laws in several of the States relating to the legal restraints upon the employment of women and children in the United States, gives information that but relatively few doctors had—the study of which,

we trust, may lead to enactment of like laws in certain sections where they seem needed.

The work as issued is for sale by subscription only—$5 each issue at intervals of about three months—thus making the cost of the entire twenty volumes, when completed, $100. The index to each volume thus far issued is excellent.

Practical Dietetics, with Special Reference to Diet in Disease. By W. GILMAN THOMPSON, M. D., Professor of Materia Medica, Therapeutics and Clinical Medicine in University of City of New York, etc. New York: D. Appleton & Co. 1895. 8vo. Pp. 802. Cloth, $5; Sheep, $6. (*Sold by Subscription only.*)

When the practitioner learns that the title is a real statement of the contents of this volume, he will want it. The author gives a sufficient amount of discussion of the relations of alimentation to the causation of disease in general as well as special diseases to relieve the subjects discussed of the weary, dry detail—although such detail is given. The work is of equal value to trained nurses, to those in charge of sanitariums, hospitals, etc. The subject of infant and children's feeding receives due consideration, and points out the dangers of improper diet given the mother, infant, or child. In short, the treatise is practical in its dietary therapeutics, and fills a real need of the profession. The index is good, although a few additional "cross-references" would have made it more desirable for ready reference. The work is divided into nine parts—mention of which will perhaps help the better to give its scope. Part I is on Foods and Food Preparations; Part II, on Stimulants, Beverages, Condiments; Part III, on Cooking, Food Preparation and Preservation—The Quantity of Food Required; Part IV, Foods Required for Special Conditions; V, Food Digestion—Conditions which Specially Affect Digestion; VI, The General Relation of Food to Special Diseases—Diseases which are Caused by Dietetic Errors; VII, Administration of Food for the Sick; VIII, Diet in Disease—Diet in Infectious Diseases—(a most important part to the practitioner at the bed-side, covering about 300 pages); IX, Rations—Dietaries. An appendix of some fifteen pages is added, giving odds and ends of information which the author perhaps omitted in preparing the manuscript. We do not see wherein the book could be made better in design or in detail for the price. Surgeons, obstetricians, and physicians alike need this work.

The Pocket Materia Medica and Therapeutics. Résumé of the Action and Doses of all Officinal and Non-Officinal Drugs now in Common Use. By C. HENRI LEONARD, A. M., M. D., Professor of Medical and Surgical Diseases of Women and Clinical Gynæcology, Detroit College of Medicine: Member of the American Medical Association, etc., etc. *Second Edition*, Revised and Enlarged. Cloth, large 16mo., 367 pages. Price, post-paid, $1.00. Detroit, 1895: The Illustrated Medical Journal Co., Publishers.

The second edition of this popular therapeutic work has had 67 pages added to it, besides typographical errors corrected, etc. A new and complete cross-index has been prepared, which renders the quick finding of a non-familiar drug possible. This is an important feature lacking in many ready-reference books. It is a "down-to-date book," and this, with unique arrangement of its description of drugs and compounds, secured for the first edition an order for 1,000 copies from Bailleire, Tindall & Co., in London; a compliment rarely paid any American book. It has also been a popular book with physicians, pharmacists and students on this side of the water, judging from the early exhaustion of the first edition. The descriptive arrangement of the drugs is as follows: Alphabetically the drug, with its pronunciation, (officinal or non-officinal standing indicated), genitive case-ending, common name, dose and metric dose. Then the English, French and German synonyms. If a plant, the part used, habitat, natural order, botanic description, with alkaloids, if any; if a mineral, its chemical symbol, atomic weight, looks, taste, how found, its peculiarities. Then the action and uses of the drug or compound, its antagonists, its incompatibles, its synergists and then antidotes. Then follow its officinal and non-officinal preparations with their medium and maximum doses. It is a handy volume for physician, druggist or student. We believe it to be the most complete and exact of any of the books of its class now issued, and its moderate price is to be commended.

Skiascopy, and Its Practical Application to the Study of Refraction. By EDWARD JACKSON, A. M., M. D., Professor of Diseases of the Eye in the Philadelphia Polyclinic, etc. *With 26 Illustrations.* Philadelphia: The Edwards & Rocker Co. 1895. 8vo. Pp. 112. Price, $1.

Skiascopy has been most widely accepted, according to the author, as the proper term to designate "the shadow-test." Inappropriate synonyms are keratoscopy, retinoscopy, um-

brascopy, pupilloscopy, etc. It has also been called fantoscopie retinenne, retinophotoscopy, retinoskiascopy, dioptroscopy, fundus-reflex-test, etc. Skiascopy, or the shadow-test, is recognized by those who have mastered it as the most important objective method of measuring refraction. But while the theoretical basis is simple, the fundamental principles readily observed, and with a few days' practice, the merest tyro may learn to estimate the refraction in favorable eyes with an accuracy not attainable by any other objective method, still the ophthalmologist will again and again encounter cases that will prove difficult and puzzling. "Nothing but a thorough understanding of the optical principles involved, and patient study of the eyes which prove most puzzling, under carefully arranged favorable conditions, will enable one to master the test." It is the able author's effort in this volume to explain each detail of examination, and the principles to be applied in these difficult cases. He does his work well, and thus makes the volume of great service to those who are devoting their practice to disorders of refraction. The publishers have issued the work in good print, with good illustrations and on good paper.

A Manual of Pedagogics. By DANIEL PUTNAM, A. M., Professor of Psychology and Pedagogy in the Michigan State Normal School. 12mo, cloth, 330 pp. Price, $1.50. Silver, Burdett & Company, Publishers, Boston, New York, Chicago, Philadelphia.

This manual is designed to serve as a text-book for Normal Schools for reference and study in Teachers' Institutes, etc. It presents a clear idea of what education is, and the importance of a thorough understanding of the several elements as a preparation for successful teaching. Especial attention is given to elementary instruction; and teachers who make a careful study of this feature of the *Manual* will find themselves well grounded. The simple directness of style, which adapts the book to the untrained as well as to the scientific, is worthy of note. At the end of each chapter reference is made to other books in which the chapter topic is treated, thus affording the reader an acquaintance with important pedagogical works. The use that has been made of the conclusions of recent studies in physiological and experimental psychology must prove very helpful. Whether used for study or reference, the *Manual* will prove itself invaluable to teachers of all grades, in supplying their various needs of professional instruction, of suggestion, and of general culture.

Editorial.

Medical Society of Virginia.

The interest developed in the success of the twenty-sixth annual session, to be held in Wytheville, Va., September 3rd–5th, assures us that it will be well attended, and that the very best of papers will be presented by able writers and as ably discussed. Year after year we attend sessions of societies where the most conspicuous desire appears to be simply the self-advertisement of those having papers to read. But we are glad to say this is not so with the Virginia Society nor with the vast majority of those who accept invitations to attend the sessions and contribute papers, or participate in discussions. We know of no State Society where the sessions are better attended throughout the days. There is not that drummed up crowd coming in to hear a paper, and that disrespectful rush for the door as soon as the author has finished his paper that characterizes some Society sessions we have attended. Virginia doctors attend their State Society to see and to learn, and to impart their items of information for the common good of the profession.

The Wytheville doctors have perfected every arrangement for the comfortable entertainment of all who may visit their famed mountain health, summer and pleasure resort. Committees will meet incoming trains on Tuesday and Wednesday morning, so as to give help or advice as to hotels, boarding-houses, ectc., and all—ladies with the doctors as well—may feel assured of a cordial welcome and ample accommodations. We say this because there was a rumor some time ago that the usual number of summer visitors in Wytheville from all parts of the country would leave no room for the Society. We are authorized emphatically to say that provision has been made for the largest attendance upon a session ever known.

The number of applications for Fellowship received is very encouraging as to a large addition to the membership of the Society. We earnestly hope each Fellow will bring in the application of some worthy friend and urge his attendance. It is specially desirable to interest the young doctor as soon as he receives the certificate of the State Board of Medical Examiners.

The Baltimore and Ohio Railroad has declined any concessions to those who may have to travel over its lines to junction points en route to Wytheville. All other railways have agreed to terms stated in the announcement circular.

Corrections in Report of the Medical Practice Laws of the Several States.

In response to our request for corrections of the reports in the August number of the laws governing the admission to practice in the several States, we have received the following:

ARKANSAS.—In 1893, the Legislature created a State Board of Medical Examiners for those who were not graduates of reputable schools. In 1895, the above was amended by doing away with the State Board, and substituting therefor County Boards of Medical Examiners, to be appointed by the Judges of the respective counties. At least two members of each County Board of Examiners must be graduates in medicine, and all those who have not diplomas from reputable schools must pass a satisfactory examination before one or another of the County Boards. Graduates in medicine need only exhibit their diplomas to the clerk of the county in which they propose to practice, and he issues a certificate—that is, a license—to practice anywhere in the State. We thank Dr. W. A. Reese, Eureka Springs, Ark., for the above information.

MAINE has this year secured an act for Registration. The Board of Registration, consisting of six physicians, was organized July 9th, 1895. The forms of application were prepared August 6th. The law requires all persons proposing to practice medicine in Maine for a livelihood to register. Each applicant for registration must pay a fee of $2. He must be a graduate of a legally chartered medical college or university having power to confer degrees in medicine; or else he must have practiced medicine or surgery for gain or hire as a livelihood in Maine for three years next prior to March 27th, 1895. Dr. A. K. P. Meserve, 109 Emery St., Portland, Me., Secretary. (See *Jour. Med. & Science*, August, 1895.)

WEST VIRGINIA no longer permits a diploma from a reputable Medical college to entitle its holder to enter practice. The law, as amended last winter, requires all applicants for license to practice within that State—whether graduates or not—to be examined by the State Board of Health as an Examining Board. Fee, $10. In all respects, the requirements are as in Virginia. Dr. L. D. Wilson, Wheeling, Va., was kind enough to give us this correction.

The Virginia State Board of Health

Exists—that is, has an officicial existence—but under such circumstances as really to render it powerless to avert an epidemic. It simply stands as an advisory body without power to carry into effect or to test any judgment it might render. The law under which it is organized gives its authority to visit public institutions, to recommend this or that; but foolishly has the proviso that the said Board shall not be an expense upon the State—as if private individuals in the performance of oftentimes disagreeable or objectionable duties were anxious to do so at their own expense and the sacrifice of personal or professional interests. The recent occurrence of small-pox in some sections of the State could easily have been prevented or checked, many lives, and thousands upon thousands of dollars saved to each of the communities interested had the Virginia State Board of Health been vested with certain authorities and sufficient money provided by the State to pay the per diem, expenses, etc. We have heard that certain flour mills in this State are in the habit of buying up old cast-away barrels from junk-shops, back-alley gates, etc., in which to pack flour for market, without the evidence that they had been replaned or otherwise been made properly clean. Even if pathogenic germs in such barrels that get into the flour packed in them are killed by baking the bread, the very thought of using flour out of barrels that may have been the receptacle of small-pox rags, manures, filth in general, etc., is revolting. We have been told that official complaint has been made to the Board about such matters: but what can the Board do when sufficient authority is not given it to investigate, or to execute an order, and not even a dollar appropriated with which to pay street-car fare or to buy a postage stamp? We hear of preventable epidemics or occurrences of typhoid fever and other diseases, still the State Board of Health has neither the means nor the law with which to make its good influences felt. The Governor of the State has been informed of some of these matters; and while expressing himself as in full sympathy with the objects of the Board, he regretted that there was no fund out of which he could authorize a helping hand.

We cannot believe that the citizens of the State are aware of anything like all the facts in the case—of the preventable dangers to which they are exposed, etc. The absolute independence of members of such State Board of the favors of hotels, railroad companies or other corporations, etc., paying

as they go, is a matter of importance. Enough should be appropriated from the State funds to compensate an able physician to serve as secretary of the Board, to have all the requisites of a thoroughly equipped office, with clerk, etc. About $8,000 a year might be sufficient, as we hastily run over the main expenses of such a Board, with which economically to establish the State Board of Health so as to let it carry out the chief of its obvious intention. Had the State Board of Health been granted by the last Legislature its proper laws with an appropriation of so small a sum as $8,000 a year, at least a half million of dollars would have been saved to the State last winter and spring by removing the causes of alarm about small-pox, etc.

This is not a political question. It is one in which Democrats, Republicans, Populists, etc., are alike interested; it concerns the health and life interest of the citizen. And we hope that doctors will at least, as opportunity arises in their professional rounds, undertake to impress the importance of the subject upon their communities.

Cotton States and International Exposition--Depot for Doctors.

Realizing the immense number of physicians who will be in Atlanta during the Exposition from all parts of the United States, and other countries, Dr. George Brown, 23½ Whitehall street, has decided to offer his mite of Southern hospitality to visiting brethren. He therefore extends a cordial invitation to any physician who may visit Atlanta to make his office his headquarters. Send mail, telegrams, etc., in his care, and he will cheerfully engage rooms, etc., in advance for any one if advised to do so. The only request he makes is to enclose postage for letters of inquiry, which will be cheerfully answered. For any services he may render, no fee, commission, or any perquisites whatever, will be received or expected.

The Medical Examining Board of Virginia

Will meet in Wytheville, Va., Monday night, September 2nd, for the arrangement of questions, transaction of business, etc. The examination of applicants for license will begin *punctually* at 9 A. M., Tuesday, September 3rd. All who propose to stand examinations should be in the Hall for registration, assignment of desks, etc., not later than 8:30 A. M., where they will find the Secretary of the Board, Dr. Benj. Harrison, of Richmond, Va., ready to give such information as may be necessary.

Reciprocity between State Boards of Medical Examiners.

This journal, it will be recalled by those who know the history of State boards of medical examiners in the United States, has always been an advocate of the establishment of such boards in this country, and is still as thoroughly in sympathy with their objects as it ever was. North Carolina and Alabama, in the very organization of their State Medical Societies, secured laws requiring examinations of those offering to join their bodies, and they did good. But Virginia was the first State to secure the passage of such laws, and to carry them out in such a way as to be thorough in their application to any and all proposing to practice within the boundaries of the Commonwealth. It was the carrying out of the laws in Virginia that first seriously gained the attention of the national medical public. Since the Virginia laws went into effect, January, 1885, State after State has fallen into line, and many have perfected statutes relating to the subject.

While we might point out grave imperfections in the Virginia law, as well as the North Carolina and other State laws—such, for example, as allowing under-graduates to come before their State Boards for examination and license —these States possess the supreme advantage over many other States in not having their examining boards subject to the whims of constantly varying political parties. The examiners are selected by the representative State medical societies. In other words, the special high degree of efficiency of these State boards is due to the fact that doctors who know the ability of their brother doctors select the State medical examiners. So that, to be a member of the State Board of Medical Examiners of either Virginia, North Carolina, etc., is indeed a professional honor—a professional distinction among brother doctors—that towers in degree far above all the honors that Governors or political parties can bestow upon one who seeks eminence in his State profession. It is indeed a great misfortune when it is the best that can be done to secure a law which gives the power to a political Governor or other officer who knows nothing of medical ability, but whose highest aim is to serve party, to appoint or displace members of a State board of *medical* examiners.

But if the reader will examine the records the various State Boards requiring examination of all applicants for license to practice, he will observe that there is an increasing tendency to uniformity of standards of requirements.

Virginia and North Carolina certainly have standards high enough, and their Boards have the same general plans for their guidance in examinations. Of course, there are many other States that might be included in the same class. All of such Boards have for their prime object the examination as to the qualifications of applicants. It is not their intention to discard any one that may apply who shows on examination due fitness. We have no reason to believe that it was ever in the eyes of the law of any State to prevent the introduction of competent practitioners from other States.

We believe the day is at hand when it is safe to advocate the laws of reciprocity between States having boards of examiners who adopt the same standard of requirements. This is a matter which, from the very nature of affairs, must very soon engage the serious attention of the profession. If the State laws require that all applicants for examination shall hold the diplomas of reputable medical colleges demanding a three or four years' course, as seems to be the tendency of the day, and if the law of the State in which the graduate may begin practice, requires that he shall first be examined by the State board of medical examiners to test his qualifications, then it appears altogether reasonable that the licentiate of one State Board may receive the certificate of another State Board of equal demand as a sufficient test of qualifications to practice in that State. It looks a little hard for the young graduate who has already spent three or four years in preparing himself for his diploma, and who has since graduation satisfactorily stood before his State Board, to be kept constantly preparing for examinations if he wishes to change his location from one State to another. It is not generally known that even between France and Germany there is a territory extending for fifteen miles on either side of the boundary line in which medical men who have the license of their nation may discharge their professional duties without molestation. "There is also an understanding between Quebec and Manitoba, so that the licenses granted by the boards of these respective provinces allow candidates to practice in either without further trouble." Quebec and New Brunswick had a similar understanding, but some irregularities occurred, and they no longer reciprocate.

Then, also, there are cases in which the requirement of examination of thoroughly able practitioners—recognized as such everywhere they are known—may very seriously

embarrass the interests of a State. Thus, suppose a surgeon residing in another State—recognized the world over as an educated, competent, able one—were needed as Professor of Surgery in one or the other of Virginia's medical colleges? Whatever might be the inducement to accept, it is natural that he should be disposed to decline when he knows that he will, at his mature age and ripe experience as a surgeon, have to undertake again the study of the technicalities of chemistry, physiology, etc., in order that he may comply with the laws of the State in which he desired to go. Some law permitting reciprocity or the form of courtesy just intimated should be adopted in each State.

It is not necessary, nor do we advocate, that the statute of any State should compel its State Board to adopt the certificate of another State Board; but what is needed is a change in the laws which would *allow* a given State Board to receive the certificate of another State Board as sufficient evidence on the part of the lawful holder that he is qualified to practice without further examination.

Illegal Practitioners.

We often receive letters from different parts of the State, stating that so and so are practising medicine without having secured the license from the Virginia State Board of Medical Examiners. We are always glad to help the communities afflicted by such evaders of the law, but their remedy is in the statutes of Virginia. The commonwealth's attorney of the city or county is the proper authority to whom to make these statements of illegal practice. And it is his duty, under the laws of Virginia, to bring the case to the attention of the court. As a State official, he has no discretion—the Commonwealth pays him to do his duty, and it is his duty to prosecute law-breakers or defiers.

American Association of Orificial Surgeons.

The Eighth Annual Session will be held in Apolo Hall, Central Music Hall, corner of State and Randolph streets, Chicago, Ill., September 4th and 5th, 1895. The sessions each day will begin at 3 P. M. and end at 8 P. M. We do not find the address of the Secretary in the program sent us, but we are told that "arrangements have been made for practical papers by practical men."

Increase of Cancerous Disease---Who will Stop It?

Dr. Joseph Bryant, of New York, states that the death-rate from cancer increased in England in the twenty-four years ending 1889, from 37 to 64 per 10,000 population; in London, from 50 to 79. From 1864 to 1892, it increased in Berlin from 62 to 67. It has likewise increased in a few years in Vienna, from 100 to 123: in Munich, from 93 to 104; in New York, from 40 to 53; in Philadelphia, from 40 to 55; in Boston, from 31 to 55; in New Orleans, from 42 to 66; in San Francisco, from 27 to 64. He summed up his lecture with the following conclusions: 1. The death-rate from malignant disease is constantly and rapidly increasing. 2. The death-rate is larger in cities, irrespective of transient patients, than in the country. 3. In limited portions of the country, and in some cities, the death-rate is strangely and disproportionately large. 4. The increase demands urgent consideration by physicians and proper legislation to combat its spread. 5. Better post-operative prognosis can be attained by proper education of the people in regard to curability by early operative treatment and by prompt action of the profession.

Dr. Joseph Eastman, of Indianapolis, in commenting (*Med. Fortnightly*, Aug. 15,) upon the address of the distinguished surgeon just quoted, well remarks that it will be one of the most serious problems for the medical profession to solve during the twentieth century, How to counteract the tendency of cancer to increase rapidly in all civilized countries. As to uterine cancer, he remarks, that there is no other disease in which the importance of early diagnosis is so great; for the disease is often local, and early hysterectomy unquestionably cures. The same statement as to timely extirpation of other localized cancers undoubtedly holds good. The illustrious Virginia surgeon of the middle period of the present century, Dr. Joseph P. Mettauer, insisted upon the curability of localized cancers, if extirpation was done early, and the record of his large experience sustained the assertion. There can be no doubt of the fact, also, that the occurrence of erysipelas about the parts where cancer is developing has cured all trace of the mammoth disease. And many now have confidence in the hypodermic use of erysipelas toxin about scirrhus as a curative agent. But it is plain that such therapeutics—surgical or medicinal—cannot always be applied; for the cancer may begin in an organ or tissue that cannot be reached by the knife,

cautery, or Vienna or other arsenical paste, etc.; and no one can foretell the limitations of an attack of erysipelas—whether by infection or by artificial production. Of course, these facts and similar ones are all of vital interest to the profession from a therapeutic standpoint, and what has been gained as a fact should not be lost sight of—should be well preserved for continuous study.

Jenner proved the value of vaccination until now it is culpable to be unvaccinated. We have probably learned how to prevent an epidemic of cholera, as shown by the bulletins with reference to the prevented recurrence of the disease in England and the United States two or three years ago. Notwithstanding the discredit recently attempted by some to be thrown upon the protective or curative virtues of Behring's antitoxin, the vast body of practitioners who have used it believe they have a powerful agent in this fluid with which to combat diphtheria. Surgeons have won victories in abdominal surgery of all kinds that were scarcely dreamed to be possible a quarter of a century ago. And thus we might go on pointing to other achievements of physicians and surgeons during the century now about to close—overcoming difficulties, solving problems in therapeutics, etc., that were scarcely considered probable by our forefathers.

When we are brought face to face with the appalling fact that cancer is on the increase—that its increase in settled countries and communities and cities especially is apparently the greatest; that the same rate of increase during the next century as has characterized its course during the past twenty years will make the disease as common with us in populous cities as leprosy in certain parts of the world, it will be seen that Dr. Eastman was right in placing the question of "how to counteract the tendency of cancer to increase in all civilized countries," as one of the most serious problems for the profession at once to undertake.

We have made much headway in medical science by the system of collective investigation. It is time some representative society or other organization were taking this subject earnestly and systematically in hand, and not give it up until what has been learned by individual observation becomes the common property of the profession, to which new truths, as discovered, may be added so as to help in discovery of the "new land of promise" that we believe to be just beyond.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 7. WHOLE NUMBER, 259.

RICHMOND, OCTOBER, 1895.

Original Communications.

Art. I.—Surgical Treatment of Cholelithiasis.*

By HUGH M TAYLOR, M. D., Richmond, Va.

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The surgery of the gall tract is perhaps claiming a professional interest in extent second only to that accorded appendicitis. The one morbid condition is as essentially surgical as the other, and both are equally responsible for bad health and deaths. The evolution of the subject of appendicitis received an impetus earlier, and followed close upon the concentration of thought on the pelvic phlegmors; but in view of its importance, gall-tract surgery is claiming its merited share of attention. Few of us can review our professional work and not be conscious of having treated operable cases of chlolelithiasis, and its consequences unrecognized as such.

The credit of increasing our diagnostic acumen in this field belongs, in a great measure, to the surgical clinic. In

* Remarks made before Richmond Academy of Medicine and Surgery, August 27, 1895.

the medical clinic, palpation, percussion, etc., revealed but little information that was tangible. In the surgical clinic, on the other hand, exploratory incision revealed the correct anatomico-pathological condition existing, associated the symptoms manifested with the morbid conditions found, and is now defining on logical lines the limitations and technique of operative interference for the relief of the various products of chlolelithiasis.

The evolution of this subject has been rapid. Within the past ten or twelve years all the marked advance in its study has been accomplished, and already, while yet in its developing stage, this field of operative surgery has been immensely widened and many of its morbid conditions have been brought within the scope of legitimate, conservative surgery, with untold benefit to mankind. Viewed in the light of recent knowledge, we appreciate the fact that few of us have failed to treat as gastralgia, indigestion, diaphragmatic pleurisy, enlargement of the liver, malarial fever, bilious fever, etc., cases which should have been diagnosed and treated as cholelithiasis, and its consequences. In my early professional work I can recall at least a half dozen clearly operable cases, which were allowed to go from bad to worse and die without operative interference.

Enough has been ascertained to prove that the so-called medical treatment offers but a small chance of benefitting the case of impacted gall-stone or stones, or empyema or cystitis of the gall-bladder, and certainly no possible chance of curing a cholangitis; that the solution of gall-stones by medication is a myth; that whenever they have attained to any size or are present in considerable numbers, and are producing symptoms, they can only rationally be treated by operation. Moreover, it is settled by experience that a laparotomy *per se* for the relief of such troubles is attended with less shock and danger than are operations for most intra-peritoneal maladies, as there usually need be less evisceration.

The unsettled problem in connection with gall-tract diseases is to classify the various morbid conditions; to

differentiate clinically between them prior to an exploratory incision, and to apply the most rational, available surgical procedure for their relief. In this we have a field for experimental pioneer work, the cultivation of which offers rich reward.

What are the morbid conditions of the gall tract which call for surgical interference? By almost unanimity of opinion among surgeons, and specifically as classified by Professor W. Mayo Robson, operative interference is indicated, and the earlier the better:—

(*a*) "In cases of repeated attacks of biliary colic, apparently due to gall stones, which not yielding to medical treatment, are wearing out the patient's strength.

(*b*) "In perforation from ulceration.

(*c*) "When there is suppuration in the neighborhood of the gall bladder set up by gall stones.

(*d*) "In empyema of the gall bladder, which is usually accompanied by peritonitis.

(*e*) "In dropsy of the gall bladder.

(*f*) "In obstructive jaundice, when there is reason to think that the common duct is occluded by gall stones."

The study of this subject will be facilitated if we keep in mind the fact that the gall tract is a drain through which the bile from the liver, and mucus from the gall bladder, must pass unobstructed to ensure good health. Obstruction means damming back of the outflowing products, dilatation of the ducts or gall bladder, inflammation of the tracts, suppuration in the tracts, extension of the inflammation to the peritoneal investment of the tracts, adhesions and matting around the tract, and a strikingly analagous pathological condition to inflammation in the Fallopian tubes and vermiform appendix.

A catarrhal cholangitis is possible, but an extension to and involvement of all the coats, including the peritoneal, is much more common. We should also keep well in mind that an obstruction in the cystic duct dams back the secretions of the gall bladder only. An obstruction in the common duct dams back the bile from the liver as well as the mucus from the gall bladder. Obstruction of the cystic

duct induces dropsy of the gall bladder, empyema, chronic cystitis, inflammation of its coats, including the peritoneal investment, perforation or gangrene, and the local and constitutional symptoms incident to such morbid conditions.

Obstruction in the common duct induces inflammation of the duct (cholangitis), extension to the peritoneal investment (local peritonitis), adhesions and perhaps ulceration and perforation, dilatation of the duct, decomposition of the retained products within the duct, and systemic poison as a consequence, and from the irritation alone reflex disturbances are not infrequent, while the chills, fevers, sweats, etc., make the condition simulate very closely; malarial, bilious, and other febrile manifestations. No jaundice in cystic duct obstruction; varying jaundice in common duct obstruction from stone or stricture; unvarying jaundice from stenosis and pressure and obstruction incident to neoplasms, malignant or benign such is the rule.

Usually jaundice, unvarying in intensity, implies malignant disease. Attention has been frequently called to the co-existence of gall stones and cancer of the gall tract. Musser claims that 90 per cent. of cases of cancer of the liver have gall stones, and there has not been unanimity of opinion as to which was the primary condition. The conclusion seems rational that the calculi, by acting as irritants, are exciting factors in inducing cancer. As a rule, the history of gall stone attacks antidates the symptoms of cancer.

Obstruction of the common duct, from whatever cause, if persistent and complete enough to dam back the bile, induces cholemia and its serious consequences—not the least serious one of which is its effects upon the blood, predisposing to ante- and post-operative hæmorrhage.

What are the dangers of cholelithiasis and its consequences? They have been tersely designated as follows:

(*a*) That repeated attacks may, and not infrequently do, exhaust the patient. Cases are on record in which the extreme vomiting and prolonged suffering of one [illegible]k has terminated fatally.

(*b*) Fatal cholemia, with its strong hæmorrhagic tendency, both ante- and post-operative.

(*c*) Distension of the gall bladder until it enlarges, in some instances, to reach to the pelvis and produce pressure effects incident thereto, and local and general effects from the decomposition of its retained products; *i. e.*, empyema cystitis.

If we recall the rich lymphatic supply, especially of the gall bladder, we will not wonder at the rapidly occurring and serious systemic poisoning incident to suppuration about the gall tract. Mr. Tait and others have found stones in hepatic abscesses. It is easy to understand that a stone, retained in the hepatic duct, may induce an irritation and afford a suitable environment for the morbid effect of the common bacillus of the colon and other pathogenic germs; but it is held by others that gall stones are invariably formed in the gall bladder—a result of the inspissation and sluggish flow of bile at that point.

What operation shall we do, and how shall we do it? The answer depends upon the indications to be met by operative interference. It goes without saying that not every case of cholelithiasis demands an operation, as gall stones in great numbers are found in the gall bladder without having induced symptoms of their presence, the patients continuing in good health. Under such circumstances, there are no indications and no need for surgical aid. Only when symptoms incident to gall stones are marked and continuous are we justified in interfering surgically. This justification will not, however, be wanting sooner or later, if obstruction of the duct from stone, or stenosis and neoplasm exists. Stones in the gall bladder, while they may never give trouble, may do so—the irritation incident to the stones inducing cystitis, empyema, and possibly ulceration or gangrene. Stones in the cystic duct induce gall bladder changes just mentioned and colic, frequent and exhausting. Stones in the common duct induce urgent symptoms and call for prompt relief. Interference

in this last condition is imperative—a conclusion amply sustained by results being daily added to.

Prominent among the operative procedures which are now and have been in vogue for the past ten years are cholecystotomy, cholecystostomy, cholecystectomy, cholecystenterostomy and choledochotomy. Of these, the operations upon which most attention is being centered, the comparative value of which is to some extent a matter of dispute, are cholecystenterostomy and choledochotomy.

Cholecystenterostomy was an advance of no small proportion over cholecystostomy. The technique of the operation, as at present performed, is so simple when the gall bladder is not contracted; its immediate effects are so strikingly good; its execution is attended with so little danger, that it has been heralded as an almost ideal operation. When the obstruction is irremediable, and the damage due to retention of the secretions of the gall tract, drainage into the duodenum is a great improvement over drainage through an incision in the abdominal wall. When the obstruction is in the common duct, the current of bile is turned into the duodenum, and its usefulness is not lost to the animal economy, as is the case when it escapes by means of a cholecystostomy. By cholecystenterostomy, drainage of the suppurating and obstructed gall tract is secured, and systemic poison—*i. e.*, septicæmia and cholemia—is prevented or cured. Its ease of execution, its minimum death rate, and its immediate effect for good, mark it an advance of no small proportion.

Nature pointed the surgeon to this way of draining the suppurating area around the gall tract by not infrequently forming adhesions and an opening between the gall bladder and duodenum, and thus emptying and draining the suppurating cavity into the intestine. For years various operators have endeavored to imitate nature by suturing the gall bladder to the duodenum; but not until the advent of that ingenious product of American ingenuity, the Murphy button, was the technique of cholecystenterostomy so sim-

plified and so completely shorn of danger as to make it safe almost in the hands of the novice.

Dr. Murphy enumerates the *indications* for cholecystenterostomy as follows:

"I. In all cases where it is desirable to drain the gall bladder.

"II. In all cases of perforation into the abdominal cavity, where the duct must be obliterated by the reparative process.

"III. In all cases of cholelithiasis, where obstruction of duct is present or where the reflex disturbances of digestion are marked.

"IV. In all cases of cholecystitis, either with or without gall stones.

"V. In all cases of profusely discharging biliary fistulæ, either following operations or as sequellæ of pathological changes in the gall tract."

It will be seen that Dr. Murphy finds in cholecystenterostomy, by means of his anastamosis button, a means for the relief of a large part of the morbid conditions incident to cholelithiasis.

His *contra-indications* for the operation are a too much contracted gall-bladder—the usual condition in obstruction of the common duct, according to some authors. When contracted, as it not infrequently is, to a tube, there is not room enough in the contracted gall bladder to put the button in. It is also contraindicated when the adhesions are so extensive that the gall bladder and duodenum cannot be approximated without kinking the latter and endangering intestinal obstruction; also when there is irremediable stenosis or elongation of the cystic duct.

While Dr. Murphy and many other operators, especially in this country, have furnished abundant clinical proof of the usefulness of the operation, which makes a new and short route from the gall tract to the intestinal canal and stamps it as a great advance over cholecystostomy, a continued evolution of the subject of the surgical treatment of gall-tract disease, demonstrates to the satisfaction of many whose opinion merit our consideration that cholecystenterostomy is not an ideal operation; that it has a limited scope of application, and is only indicated in irremediable

stenosis of the duct. The ideal operation contemplates restoring the gall tract to its natural state; re-establishing it as a drainage tube, and this is accomplished by removing the obstruction, which is usually an impacted stone.

The operation of *choledochotomy*, *i. e.*, incising the common or cystic duct, immediate suturing, and drainage as a precaution, is the ideal operation. For a time surgeons hesitated to incise and suture, and drop back the duct, for fear of leakage of bile. Experience shows it to be safe and curative in the full sense of the word—curative in that not only is drainage secured, but the cause of the morbid condition, the stone, is removed. As long as the stone remains in the duct, it is an irritant inflammation—catarrhal or septic—and reflex disturbances continue. Cholecystenterostomy does not remove the stone impacted in the duct, and this is its weak point. Choledochotomy is safe; the mortality of incising and suturing the duct is less than 18 per cent. Cholecystenterostomy, it is true, presents a much smaller death rate; but the patient is only tided over the crisis, and is not well as long as the stone remains impacted in the duct. It is true that it is not always easy or even possible in some cases to find the stone in the duct, or bring the latter into a position where it can be incised and sutured. An improved technique is rendering this difficulty a less formidable objection.

Dr. Elliot, of Boston, has called attention to the advantage gained by a reversed Trendelenburg position, and also finds that the sutures to close the incision in the duct are introduced with much greater facility if passed before the stone is removed.

Choledochotomy and cholecystotomy are unquestionably ideal operations, when the conditions are favorable for their execution. Cholecystenterostomy, with the Murphy button, has and will continue to save lives; especially in desperate cases too feeble to stand a prolonged operation, or when the obstructing stone cannot be found or be removed after it is located.

Art. II.—Words Not Usually Found in Medical Dictionaries.

By IRVING C. ROSSE, A. M., M. D., F. R. G. S., Washington, D. C.

Quite recently a medical man from Philadelphia called at my office, and throwing down a brand new medical dictionary on the desk, challenged me to name any medical word or phrase that does not occur in the said wordbook.

On the spur of the moment, I recalled a number of words that could not be found, such as *Neurodendren*, a term used in speaking of the histological ending or ramification of the nerves; *Banaustic*, merely mechanical; *Eurycephalic*, large skulled; *Eurygnathous*, large jawed; *Upomochlion* (*ὑπομοχλιον*, the fulcrum of a lever, *Arist.* Mechan., 4 l.), the epigastric region, considered by Galen to be one of the *levers* of the vital force (*scrobiculus cordis*); *Drachocephale Virginiana*, a plant that may be made to simulate symptoms of catalepsy; *Dactylosmileusis* (*δακτυλος et σμιλεὺω*), igitur appellamus chirurgiam veterum, digitos manus et pedes scalpro excisorio et malleo amputandi; Die Abmeiselung der Finger oder Zehen, according to Dr. Siebenhaar, *Termilogisches Worterbuch*, Leipsig, 1842, and *Schrieber, A. G.*—De dactylosmileusis, 1815; *Botryotherapeutics* and *Staphylinotherapeutics*, grape cure; *Morbus Mirachiali*, hypochondriasis, named from *Mirach*, an Arabian physician, of the 11th century, who wrote much of this affection.* *Emeryaki*, same as *Latah* or *Gilles de la Tourrette's* disease, and, according to Dr. Bunge, of St. Petersburgh, improperly spelled—*Myriachit*; *Mestoboyazin*, Russian for agoraphobia; *Dysnoia*, heavy, gloomy thought; *Mesological*, relating to environment; *Quass*, Alaskan whiskey; *Pygopa-*

*Some of the bibliographical references to *Affectus Mirachialis* are: Adolphi, Diss. Trias., Lips., 1746 (*de affectum mirachiali*); Ephem. Nat. Cur. Dec. II., Ann. viii., obs. 3; Gordon, Lib. fol. 183, 6 (*Mirach=Mesenterium*); Marcellus Donatus, L., iv. c., 8 de Payva (*Gasp. de affectus atrabilario mirachialis*, etc., Rom., 1751, 4; Zacutus Lusitanus, Prox. Admir. L. II. obs. 8 (*affectus curatus usu eboris*); —— ——, Med. Pr. Hist., L. II., p. 957 (*ebeno curato symptomata*).

dous, said of birds who sit upon the rump and feet, as auks and penguins; *Uranist*, name for a sexual pervert; *Hypnogogic*, bringing about sleep; *Nephrozymosis*, term used by writers on kidney diseases; *Nonnengerausch*, same as *bruit de souffle; Hagymaz*, Hungary fever; *Quef*, Icelandic for influenza or grippe; *Fakisa*, Japanese infantile measles; *Cheiropodalgia*, acrodynia; *Duopagous*, two united; *Alpenstich*, a form of pleurisy or pleuro-pneumonia peculiar to great heights, occurring in the Alps, Andes, Thibet, etc., concerning which much has been written. See *Guggenbühl, J.*—Der Alpenstich Endemisch, Zurich., 1838 (the typhoid-pneumonia of the Alps); also *Hirsch, A.*—Handbuch der Historisch—Geographischen Pathologie, Erlangen, 1862, Bd. II., p. 46, and *Davidson's* recent work on geographical pathology.

There was also failure to find some words noted in reading an article on the "Medical Topography of the West Indies," such as *Bathymetric*, *Dioric* (two climated), *Diurnal*, *Seismic*, *Nychthemeral*, *Madreporic*, *Soufrière*, *Agouti* (a small rodent), *Sarigue* (a *marsupial*), and *Perro mudo* (extinct)—the three being the only indigenous quadrupeds of Cuba; *Bothryops lanceolatus*, a deadly snake causing great mortality at Martinique; and *Swizzle*, a mixed drink peculiar to the West Indies, and one that seekers after health would do well to avoid.

I also failed to find such words as *Vaudoux* or *Voodoo*, *Theophobia*, *Pedaneous*, *Gynegraph*, *Pilosism*, *Choregraphic*, *Operant*, *Religiosity*, *Religionize*, *Subliminal*, *Desinvolture*, *Metempirical*, and *Cycadean* or *Cycadeons*, the last two words being used by writers on fossil botany, but not to be found in any dictionary.

Referring to a list kept during the several years that I was engaged in a sort of intellectual tread-mill work, making an "Index Catalogue of the Library of the Surgeon-General," to which unfortunately applies the Mantovanian refrain—*Et quorum pars magna fui; sed tulit aliter honores*"—I came across many unusual words, about a hundred of

which are not to be found in the forementioned or in ordinary dictionaries.

Many of these terms occur in works that deal with the comparative pathology of the races, or with pathological anthropology, and are not to be found in the usual books that make up a doctor's library.

Acerotherium—Extinct monster, formerly dangerous to man.

Adanto blaka—Malady from an animal parasite common to negroes of the Gold Coast, and of frequent prevalence in the tropic zone.

Alkmi or lakmi—An alcoholic drink made from the juice of the palm.

Allophyles—Other races.

Arevarera—Skin disease in Polynesia among kava drinkers.

Astaragazza—Ethiopian nervous delirium like lycanthropy.

Avaïsme—A malady from abuse of kava resembling absinthism.

Blafard—Albino.

Bodik—Malay liquor from rice.

Booza, or *bousah*—Egyptian liquor, from barley.

Bubas—Pre-Columbian syphilis of old Spanish writers.

Cacabay—Name for lepra in the Antilles.

Cagne—A parasite malady that destroys trees in Liguria and Sicily.

Callichtes—A fish in Brazil

Chalaub—Leaves of a convolvulaceæ chewed in Darfour to remove odor of alcohol.

Chandoo, or *Kin-ni*—Name under which Turkish opium is sold in China.

Chauponism—A name for pederasty among the tribes of Southern Alaska (Mason).

Chica—Beer from pineapple and Indian corn, much used in Mexico and Central America.

Cloud-Ring—An atmospheric phenomenon supposed to have some connection with malarial fevers of hot countries.

Coquelicot—Red corn poppy; a violent poison for the Bovides.

Coquero—A cocoa chewer.

Dadan—African hypnosis or *nelavan*.

Daïko—Colossal carrot of Japan. (*Brassica japonica.*)

Depecoration—Thining out or extermination of flocks. (Not in Standard dictionary.)

Diodon—A toxicopherous fish of New Caledonia.

Doronicum—Species of arnica; kills dogs, but not camels.

Entomophtera—Parasitic malady of insects (Pasteur).

Falcadine—Syphilis (Tyrol, 1786.)

Falgo—Salt prepared in form of little cylinders and used for money in Darfour.

Fumaggine—A parasitic disease of citron and orange trees.

Gabelle—Name for salt among certain African tribes.

Gallao—Syphilis; coast of Guinea.

Garrotillo—Diphtheria.

Gastrodisque—Animal parasite in horses; prevalent in Egypt.

Génie Epidemie—Supposed to be a sort of occult or supernatural power, or from personal revenge of God. For instance, pestilential *epidemic of Kau* in Cairo, over fifty years ago.

Guebrabunde—Disease of horses in South America resembling beriberi (Crevaux).

Gueule de loup—A hideous deformity from a hiatus of the inter-maxillaries.

Hachiasa—Cholera; met with and described by physicians under this name during Arab invasion of India in the 7th century.

Helicomonas—Microbe of syphilis (Klebs).

Herba britannica—Specific remedy in scurvy (Pliny).

Hinchazon de los Nigros—A disease of negroes in Cuban sugar works, thought to be beriberi.

Hota—Polynesian for acute bronchitis, pneumonia and pleurisy, all three of which are very frequent.

Irish button—Syphilis (Drs. Wallace and Corrigan, 1823).

Kamsin—Egyptian dry wind, terrible in its effects.

Keratophagia—Disease from *Achorion Keratophagus* of Ercolani; called *onyxomycosis* in man and *fourmis* in soliped.

Kikis—Malay ichthyosis, of great frequency.

Kinetic—Motory or causing motion.

Kirinagras—Ballingal's malady; Madura foot or Perikal, from myxospora.

Lalangola—Synonym for nelavan, or African sleepy sickness.

Lambwine—Alcoholic drink in Tartary, made from rice.

Lepus Huxleyii—Species of rabbit, modified by hybridity; left in island of Porto-Santo, 1419.

Less, or *Loess*—A geological formation. In countries but little shaded, as China, Thibet, or Korea, the reverberation of light upon the yellow *less*, is supposed to cause eye diseases.

Limnophysalis hyalina—Parasite found in marsh air, supposed to figure in malaria (Erklund, Lemaire, Gratiolet).

Lipplapen—Half-breed or *metis*, resulting from Hollander and Malay.

Maïsine—A narcotic substance taken from a tincture of diseased Indian corn (Lombroso).

Mal de Sainte Euphemie—Syphilis.

Mal Syriac—Diphtheria (Hippocrates).

Malla in Canna—Diphtheria.

Mata-glap, see *Omok*—A homicidal delusion among Malays.

Matazahualt—Red fever of the Aztecs; some suppose yellow, others typhus fever.

Mescal—Pulque brandy of Mexico.

Mezels or ladres—Lepers; so called by a religious order who cared for them 1048 to 1253.

Milieu—Environment

Nanahualt—Syphilis (Mexican), pre-Columbian.

Nanism—Loss of size and vitality in plants and vegetables grown in rarefied air.

Nelumbrium of India and *Bongainvillaca* of Brazil; flower yearly in hot-houses of Hérault, but give only leaves in London hot-houses.

Niaouli (Melalenca leucadendron)—A plant supposed to destroy the productive agency of malaria.

Noué l' Aiguilette—Same as "pins and needles" of the Folk lore; bewitched.

Omok—Synonym for *Mata-glap*.

Ougrienne—A generic name for the inhabitants of Northern Asia.

Pelade or *pelatina*—A disease resembling pellagra or ergotism, caused by eating maize infected by the *Scleroticum zeinum* of Roulin.

Pellagrozeine—A toxic substance like strychnia, taken from a tincture of diseased corn (Lombroso).

Pitbury—Duboisine.

Pouillerie—Sale of the effects of pestifers.

Ramaninjana—Epidemic delirium in Malay and in Sumatra.

Razgi—Condiment used in Malaisia, composed of onions, black pepper and pimento.

Rhigopus nigricans Ehrenbergü—Ferment of typhus, according to Hellier.

Romadizo—A fever in dogs, observed in Cuba.

Sagoever—Fermented liquor in Polynesia from *Arenga saccharifera.*

Sahara chancre—Biskra button or boil.

Scherlievo—Syphilis (Istria).

Senki—Disease peculiar to Japan; lepra and dry colic (Kœmpfer, 1713).

Sibbens—A disease identical with *framboesia* or yaws. brought to Scotland by Cromwell's soldiers about 1650,

Spedalsked—Lepra.

Syneses—A term used in speaking of morbid atavism.

Tabou—A prohibition or interdict of great force among the inhabitants of the Pacific Islands. Testimony of the persistencies of the *tabou* quoted as showing unity of type among the Polynesians.

Tangaraca or *Rubia noxia*—Produces on rats same effects as valerian on cats.

Telekinesis—Motory effect at a distance.

Theroid—Beast-like.

Tigritier—Nervous dancing epidemic in Abyssinia.

Topas—Half-breed of white and Hindoo at Pondichery.

Uta—A dermotophytic process in the Andes analagous to Biskra button.

Verderame or *verdet*—Fungus, green cryptogamic dust invading grain.

Ztigau—Sternutatory instrument in Australia.

Zythus—Beer of ancient Egypt (Diodorus).

Many terms used by neurologists, psychiatrists and writers on criminology I also failed to find. A few of these are: *Disvulnerability, Recidivism, Misoneism* and *Misoneist, Oro-*

*graphic, Mattoid, Santon, Boulepsy, Psychism, Devolition, Xenodochia, Infantilism,** *Palmus* and *Palmodic, Dysthumia, Eject* and *Ejective. Verrüktheit, Graffonomio, Contractural, Errebund,* and *Devolution*, new vocables that one frequently meets in perusing the literature of the forementioned character.

I am aware that many of the words herewith enumerated, though old, will be new even to many persons who have given attention to medical terminology, and that some of the expressions, being foreign and neoteric, may not have claim to good lexical standing. They were, however, all run across by me in discursive medical reading, some of them many times, and interpreting their meaning, in numerous instances, has cost days of patient research. Their reproduction here is not meant as a criticism that applies to the shortcomings of any particular one of the excellent word-books that have lately appeared, since the difficulties both of inclusion and exclusion in preparing such works are fully recognized. This little list, with all its imperfections, is therefore put forward merely for what it is worth, and is submitted with that spirit of modesty which popular figment and common assent acknowledge to be the mark and attribute of one who is neither an editor nor a lexicographer.

1701 *H Street.*

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* *Brissaud, E.*, Leçons sur les maladies nerveuses, 1895, p. 625.

Soft Corns Between Toes.

Exchanges state that Dr. Miall says (*Brit. Med. Jour.*) that an ounce of perfectly freshly made tannin, dissolved in six drachms of water with the aid of gentle heat, applied once or twice a day between the toes, after washing, gives immediate relief to soft corns. Tannin in powder is not so effectual.

The Unpleasant Taste of Potassium Iodide

Is said to be completely neutralized by the addition of a little soda water.

ART. III.—Some Remarks about Fever, and Natural Conservatism.

By WILLIAM S. STOAKLEY, M. D., of Milboro Springs, Va.

Fever is a signal of offended nature with conservative intent. As to how idiopathic fever came about, perhaps one of the first things noticed in this regard was that it followed the plow; he who tills the soil is apt, very apt, to harvest it; and, if I am not mistaken, one of the last items gathered by careful observation of close students (*vide* report of Klebs, and Tomassi Crudeli investigations of Roman Campagna): "The first and real cause to be sought for is in the soil"; the others appear of minor importance, and consequent of this the seeming chief one.

It is said of Cæsar, when landing in Africa, that by some mishap his feet became entangled, and he measured his length on mother earth, when he immediately exclaimed: "Africa, I will hold fast to thee."

The general impression of country physicians, I verily believe, hugs the earth as "tight as Cæsar" as the chief and most potent cause of essential fever—not denying, however, that there are others acting in concert and under certain inexplicable influences, morphological, chemical and otherwise—thus far incomprehensible to us, but contribute to this the apparent chief factor in the production of the subtle poison.

No matter from whence or whither cometh the antihygienic vapors, or the patho-vitalized germs, they are in innocuous desuetude until something "turns up" in the way of congenial surroundings for the establishment of other forms of life in a line with their intent and purpose. Let us, then, not forget that man's innate conservative forces will protect him if they be in normal trim and running with a healthful vim; nor should we be oblivious to the fact that his loss of harmony with his external relations will invite the lodgment of these pathogenic elements, whether they [illegible] the earth below, or in the air above, or

in the waters under the earth. Until there be mediums and environments proper for the culture and growth of these morbific elementaries, no harm may come through them. All who have had extensive practice in the country know the susceptibility to malarial fever of cachectic subjects—consequent of poverty, filthy habits, insufficient and improper food; and likewise the converse of these in the way of immunity to such, as well as other affections. Residents of hot countries know well the prophylactic effects of quinine in infectious fevers, and, despite the headlong tendency of these latter fevers, the *vis naturæ* will have its influence and weight, and, when aided, wields no insignificant protective force.

When we go afield in chase of the causation of malarial and infectious fevers, we discover differential lines of life undergoing change of form; to these we are inclined to attribute the partial escape of something noxious, which aids in giving rise to the disgruntled condition of nature in the shape of the above named affections.

But this work (change of form) of *μύδοσις* (putrefaction) and *ζύμωσίς* (fermentation), though done by the same ultimates it may be, yet the atomic elementaries must be differently shaped and arranged; and while the work is eminently conservative, if any toxic matter escapes, it (in respect to disease) should be in a corresponding differential line; hence the two fevers (malarial and infectious), though akin, the touch to us is of "impracticable profundity," and present plainly to our view distinct parallel lines of disease, as are the lines of animal and vegetable life. The dissimilarity of the parallel lines of life of the animal and vegetable kingdoms make them dependent each on the other for life and health. If we fold a sheet of paper, while each fold is separate, yet they band. So these lines of life; apparently so these fevers, partially consequent upon the decay of the matter of each line. If we be forced to ignore these parallelisms in disease, and in health of the animal and vegetable kingdoms, and the same in the animal kingdom,

Mr. Darwin would appear to have a sure thing of it, for man may not only have "monkeyed" at some distant stage in life, but also blossomed as the rose and bloomed as the lilies of the field, to say nothing of having "paddled the sea as one of the finny tribe."

It is reasonable that "all flesh is grass"; all grass the dust of the earth, and certainly plain that this grass has made very different flesh; also that the earth has made quite a variety of grasses; yet, to our view, distinct parallelisms are sustained all through and along the circle of life, and still they band together.

It is no more true that law is founded on justice than that medicine is based on reason, and he is apt to be more successful who works in concert with the suggestions of nature.

Many years ago, when the Colorado bugs first made their appearance, the people were very much troubled, not knowing how to save their potatoes. One morning an old gentleman came over to see me and said: "Do not be disturbed about your potatoes; there is a bug on the under part of the leaf that will destroy every egg put there by those pest-bugs." I examined and found it just as he stated, but the phagocyst was very shy and timid, and could be seen only by being very careful and noiseless when looking for him.

We know we have insect friends as well as foes in the field and garden. "Snakes, toads, lizards feed on insects that are injurious to us, and thus have a purpose in life. There are many insects which live on others and do not eat any part of the plant where we often see them. The dragon-flies and beetles (some of them) attack grubs and plant-lice hidden behind the leaves."

We have good reason to suppose that pathogerms are not likely to take "the castle" without resistance from the healthful microbes; and, as the old sailors might say, with the "port-holes" (excretory vents) open and the "gangways" (food, water and air) guarded, we might rest in peace and security so far as our microscopic enemies (externally) are concerned. Just here, however, it is well to remember that

preventive medicine has to contend not altogether with what deleterious vapors get into the system from without. Doubtless many infectious diseases originate in entirety somewhere within the alimentary canal spontaneously under certain hygrometric, barometric, thermometric conditions, or some peculiar morphological arrangement or disarrangement of ultimates. We are quite sure that no machine will run except under contrasting motions or forces; there must be checks and balances to get harmonic action; equilibrium must be preserved.

One year we have a good stand of wheat; another, cheat will come luxuriantly. Again, we cut down pine trees from a piece of land, and oak will grow instead on the same land.

Doubtless many germs of disease lay dormant until certain conditions arise favorable to their development, as do some vegetable seed.

Some years ago a gentleman in Eastern Virginia, in having some land plowed in the field, came in contact with the foundation of an old brick building. Supposing it to be good manure, he had it hauled to poorer spots in the field, where tobacco plants came up luxuriantly, though no tobacco had been planted on the land for a number of years (the owner could not remember when). It may have been plowed over unobserved for generations.

Some time back a gentleman from the South reported what he called an endemic of mushroom fever, caused, as he thought, by the rank vegetation of these cryptogams. I thought then, and think now, that the fever in regard to them may have been *post*, and not *propter hoc*.

When we take into consideration the point of natural conservatism, the more we observe and think over it, the more convinced we will be that preventive medicine consists rather in fortifying "the castle" (system)—by habitual prudence, proper diet, baths, clothing, etc.—than in defending the same, weakly garrisoned against the escaping toxic results of the change of form of matter, whether

animal or vegetable, or any other pathogerm "tramp" whatever.

Referring to the endemic fever above mentioned, these growths may have been scavengers failing to take up and utilize toxic elements in the earth and air where they grew.

I believe it is a conceded point that the decay of vegetable matter alone is not sufficient to produce fever. The fact of rank vegetation, whether it be phenogamic or cryptogamic, "may only prove that such is the course of nature in order to sustain the harmonic relations of the animal and vegetable kingdoms by the decomposition and appropriation by the latter of noxious elements which exist in the earth and air where they grow, they in turn yielding to others," making a circle of reciprocal utilization and purification. The manner of growth of the lower order of cryptogams, their short life and structure, would seem to indicate them utilizers of animal poisons rather than producers of disease. Some are edible, some poisonous, others are medicinal.

The *fucus vesiculosis* is an anti-fat remedy (so-called). The marine plants are all good manures, especially for sweet potatoes. By the way, the iodine, bromine, chlorine, etc., of the sea water, my friend Dr. Robley Dunglison used to say, afforded a consumptive the best chance of improvement of any resort known to him: "If you have a consumptive, send him to the seashore." Only of late years has it become known that one in search of health is more likely to find it there than anywhere known to practicians.

To come back to idiopathic fevers: When vegetable matter is destroyed by plowing up the land and turning it in the soil—though experience has proven that earth is a powerful disinfectant—it has also proven that land thus opened up to the sun will free a poison more productive of fever (malarial) than anything thus far known to the profession. *Per contra:* Along with this liability in rural sections to the effects of malaria, a beneficent Providence has placed a remedy, weeping even now, doubtless as of old, by the "rivers of—Babylon," and all the rivers that will stay the

effects of this poison, and it must "hang its harp" on the willow tree.

For the third-day ague and fever there is nothing better. Steep the bark in cold water, adding a little whiskey; a wineglassful of this three or four times daily will do the work permanently, when quinine will only check it for a few days. The emunctories must be clear.

In these malarial bottoms, the bone-set takes on a royal growth, and it is a most excellent remedy, going so plain and straightforward to its work.

Again, in the country the old-timers say: "If you catch the fever in the fodder field, make a tea of the fodder blades; it will cure."

Pure corn-meal, a tablespoonful every three or four hours during the intermission, in a glass of water, will often relieve the trouble, especially if there be irritability of the stomach.

To sprinkle over old running sores, there are few applications better than corn-meal. Try a diet made of cow's milk and a tea strained, and carefully made of *pure corn-meal* in proportions according to the age of the infant. Try it wet with ammonia in venomous snake-bites, applied to the wound.

In the rich bottoms sometimes an old pine tree will encroach, bedecked tastefully with the poison-oak vine, which, when wet with dew, is a "touch-me-not"; should it mark you, cut off the outside rough bark and get the white pulpy material under it of that pine tree (or some other), and bind to the poisoned spot repeatedly; whilst not a "cure-all," it is a good remedy.

In concluding this rambling paper (crude, I know), I will say that I have tried to show that nature is on the *qui vive* in health and disease, and that experience will not fail to make patent that the best we can do to preserve a healthful status is to obey her laws. To recover from the consequences of antagonism to these laws, our efforts of aid, if not in line with the *vis naturæ*, are apt to be failures.

Art. IV.—Vaginismus, Cystocele, and Rectocele.*

By E. E. MONTGOMERY, M. D., of Philadelphia, Pa.,

Professor of Clinical Gynæcology, Jefferson Medical College; Gynæcologist to Jefferson and St Joseph's Hospitals, etc.

Varicocele.—This patient, thirty-four years of age, lost her father and mother from Bright's disease. She began to menstruate at sixteen; was regular, and has now been married fourteen years. She has had two children, with both of which the labors were normal. She has never had a miscarriage. Her present trouble began a year ago. She has had general abdominal pain, a constant sensation of weight and bearing down, and underwent operation for laceration of the pelvic floor in a hospital of this city some eight months since. Following the operation, menstruation has been regular. She suffers from frontal headache, and, owing to excessive pain during coition, she cannot submit to the marital relation. We can see evidence of Emmet's operation having been done.

I can see no special reason for discomfort during coition, unless it is due to her nervousness. It is possible there may be pain and discomfort, but this certainly should be overcome. Pain sometimes results from the presence of fissures at the posterior margin of the vulva. The nerves are exposed and the slightest touch aggravate the pain.

We shall place this patient upon a tonic and give her an ichthyol ointment to apply to the painful surface, believing in this way the distress will be removed.

Cystocele.—The next patient is fifty-six years of age. Her family history is negative, but she has suffered from malaria and rheumatic fever. Puberty occurred at sixteen; the flow was irregular and painless, lasting about three days. She has been married twenty years; been pregnant and delivered at full term three times. The last delivery occurred fifteen years ago. The climacteric took place four years since. About five years ago she noticed a tumor projecting from the vagina, which she was obliged to push back to urinate. She suffered from a dull, aching pain in the right side; the urine was of an amber color, highly acid, containing no sugar nor albumen, but a slight quan-

* Clinical Lecture delivered at the Jefferson Hospital, Feb. 12th, 1895.

tity of pus. She has a protrusion from the vulvar orifice as large as one's fist, which produces difficulty in urination.

Tumors in this situation are generally either the anterior or posterior wall of the vagina, or an inversion of the vagina, containing the uterus. We should not arrive at the conclusion that every tumor which projects from the vagina is a prolapsed uterus, although this is the inference the patient will convey to you. I had an opportunity to show you a few days ago a tumor projecting from the vulva, as large as an orange, which proved to be a cyst, evidently of the vulvo-vaginal gland. Such a protrusion, if one is not on the alert, may be mistaken for a rectocele.

As I separate the vulva, we notice a slight protrusion of the anterior wall of the vagina. The want of support below favors its development, and, as the tumor increases in size, it drags upon the structures above, adding to the difficulty. As I direct this patient to strain or bear down, you see the tumor is increased. As I pass the finger into the vagina, it passes behind this mass, but I find no protrusion of the uterus. This is consequently a cystocele. There is a projection of the posterior wall which may be recognized as a rectocele. The displacement of the anterior and posterior wall where the uterus is fixed result by traction upon the cervix in its elongation, and the production of a condition known as hypertrophic elongation of the cervix, in which the latter may be drawn out to a small thread-like connection between the external tumor and the body of the uterus.

We will relieve this patient by denuding a portion of the anterior wall of the vagina, closing it by sutures, and make an extensive denudation upon the posterior wall, which will be extended out to the vulvar orifice. This operation is known as an anterior and posterior colporrhaphy. The wound is closed by silk sutures, for the reason that it lasts longer than catgut and gives rise to much less irritation than silkwormgut. It may be permitted to remain for a number of weeks, and even until it drops out of itself, without inconveniencing the patient. In the posterior wall, I introduced the sutures from above downward, and below upward, so that, as each suture is drawn, it lifts up the posterior segment to a higher level, bringing the parts when closed, the posterior in apposition with the anterior surface.

The advantage of such an operation is, that all the sutures are introduced through the mucous surface within the vagina, and consequently the patient suffers much less inconvenience and distress than if the integument was sutured. The sutures will be left for a length of time, in order that the parts may become perfectly solid, and need not be removed until the end of two or three weeks.

The decreased pelvic support in a uterus that is already heavy, as a result of subinvolution, may lead to prolapse of the organ. As the organ settles further down in the pelvis, it increases in weight from the interference with its circulation, and this adds still further to the rapidity of the displacement. Then, too, as the uterus is displaced lower in the pelvis, it assumes more and more nearly an axis parallel to that of the vagina, with the intra-abdominal pressure directed upon its fundus, making it a wedge to drive it through the genital canal. The most marked distress in these cases is the interference with the evacuation of the urine. The segment of the bladder which falls below the internal orifice of the urethra is not completely emptied unless it is elevated. The urine accumulates, remains, and, with the vesical mucus, undergoes decomposition, producing an ammoniacal urine. This is exceedingly irritating, and aggravates the congestion and inflammation of the mucous membrane of the bladder. The mucus formed often furnishes a nidus for the deposit of calcareous salts, so that not unfrequently do we find in such a condition the presence of a vesical calculus. Such calculi may attain to large size and entirely fill the cul-de-sac. I have a patient who comes to my office twice a year for such a condition, which leads to the formation of a mulberry sized calculus and adds very greatly to her distress. She is a woman up in years, and consequently hesitates about having a radical operation done.

1715 *Walnut Street.*

Art. V.—The Old Virginia Doctor.*

By JNO. HERBERT CLAIBORNE, M. A., M. D., of Petersburg, Va.,

Ex-President and Honorary Fellow Medical Society of Virginia, etc.

During the session of The Virginia Bar Association, at the White Sulphur Springs, in July, 1891, a member, an artist of high repute, limned a living picture of "The Old Virginia Lawyer." The Old Virginia lawyer had a compeer, who was also often a companion—"The Old Virginia Doctor"—and in the portrait gallery of Old Virginia worthies his picture should have as prominent a place.

My hand is only skilled to make a charcoal sketch, but I shall draw it true to nature, and the subject itself will supply the grace to cover every defect of faulty execution.

Like the Old Virginia lawyer, the Old Virginia Doctor was a gentleman born—more exceptionally so even than the Virginia lawyer. One born in the humbler walks of life could scarcely elevate himself to the position and dignity of the Virginia doctor. Riches in those days rarely descended on the *novus homo*, and, without a liberal outlay, it was impracticable to secure the classical education necessary to commence the study of medicine, and impossible to pursue the curriculum, which required years of costly following in Philadelphia—then the seat of medical learning in this country—or in Edinburg abroad. To these cities the young matriculate in the school of healing ever turned his eye in hope of procuring a parchment (*hæc membrana*), in which he should be pronounced "*Vir Probum, et in Arte Medendi Doctorem*," and which would confirm to him the office and right, without license of law or board, to pursue, to his honor and emolument, and to the good of his fellows, "*Medicinæ et Chirurgeriæ Artem.*"

A young man without means, but of spirit, of pluck and parts might, after passing through the positions of deputy sheriff or collector, and then attaching himself to the office

*Read before Medical Society of Virginia, Twenty-sixth Annual Session, held in Wytheville, Va., September, 1895.

of an old lawyer, hope to make opportunity of coming to the bar, and of proving, by address upon the hustings, his power to look down upon the frowns of fortune, and his ability and right to hold a place "*primus inter pares.*" But not so with the young aspirant for the degree of doctor. He had to hold the sinews of war, from the inception of his career; and he was usually the scion of a house in which years of entailed wealth had given leisure, and leisure culture, and culture pre-eminence. He was the son of a gentleman. He was a gentleman himself; and he never forgot it. He was of kind and gracious dignity to his fellows, more kind and gracious to his inferiors, never knew any superiors, magnified his noble life; and if he ever let himself down, it was only semi-occasionally, with the "old boys," of which his compeer, the Old Virginia lawyer, was generally one.

There were two of him—the Old Virginia doctor—the town and the country doctor; but there was not the same difference, real or supposititious, between them as now exists between these same representatives of the same profession. The town was small and the country large; and the town doctor extended his practice far into the country, and his clientele often brought him into the circuit of his country brother; and he recognized him as a brother. Had they not both studied under the same masters? Had they not been apprentices, perhaps, in the same surgery or shop? And had they not read the same books? And did they not both use, and equally as well, the same instruments? The former assumed no airs, and put on no pretense of superior skill or greater wisdom than his country comrade. They met one another on the same plane of honest and sturdy fight with disease and death, and were both well and equally equipped for contest with the common enemy, and carried with their armentaria a sound sense and a sagacious judgment that shrank from no call, and failed in no emergency; nor did they divide amongst themselves the human members, and assign to separate care the eye, the nose, the head, the chest, the arm, the leg, the liver, the

scrotum, and the umbilicus. Whenever and wherever the Old Virginia doctor heard the cry of human suffering, calling for human help, he went fully armed to give help, and made no puling plaint for delay, until he could summon a surgeon, or an obstetrician, or an oculist, or a gynæcologist, or a laparotomist, or a lithotomist, or an orthopædist, or a neurologist; but, swift as the mythological Mercury, whose device he bore upon his staff, and strong of heart as Ajax, asking nothing but light, he went to heal, and to save. He was no specialist.

And the Old Virginia doctor dispensed his own drugs. He knew them when he saw them, their physical character, their appearance; and he was familiar with their combinations and their chemical incompatibles; above all, he understood their action and their properties, physiological and pathological. He was a man of resource. He had a store of remedies in his saddle-bags or gig-box, and his oldest apprentice at the shop saw that the supply was not exhausted. It was his especial office to see that vial and gallipot and box were always filled.

He had no manufacturing chemist to prepare for him elegant and tasteful elixirs and sugar-coated pills, and compressed triturates, and dosimetric granules, and to dictate to him their several uses, and to suggest their exhibition. He was the author as well as the dispenser of his own prescriptions. Or if, as it sometimes happened, he sent a prescription to be compounded by the town apothecary (a man himself always learned, at that time, in classic lore), the doctor wrote even the directions for administration in Latin, and left it to the pharmacist to translate only such portion as was necessary for the proper serving of the remedy. And it were as well to approach the Sphinx in hope of an answer, as to ask of such an apothecary the ingredients or components of the formula. He belonged to a guild, in the eyes of which the doctor was only less than a god; and the doctor's faith in the skill and fealty of his druggist was more than faith in man. When the prescription was filled and sent on its errand, there was no mistake

in its contents or its composition, and there would be no mistake in its action. The old doctor believed in physic, and the physical senses attested his faith. His medicine had always both smell and taste, and each potion taken would guarantee results. The patient always knew that he had taken something, and that he would hear from it again. The old doctor was no infinitesimalist. He believed that "the stomach was the throne of the sympathies," and that the throne should be kept pure and clean. And he believed in "bad humours in the blood," and in blood-letting, to rid the system of the same; and a spring lancet was always a part of his paraphernalia. He was an antiphlogistic, and a follower of Broussais, or he was nothing. And when I note how far the pendulum of the new doctor has swung to the opposite extreme, in this evening of the dying century, I am reminded of an inscription on a shaft erected by their father to the memory of two sons, both of whom had fallen in battle, one a Federal and one a Confederate soldier—"God only knows who was right."

The old doctor might have been faulty sometimes in his theory, and sometimes too heroic in his practice, but he had a wonderful knowledge of the dynamic forces, and he knew, after all, when it was proper to withhold the lancet, and when to "exhibit bark." He had faith in his art and in his resources, only equalled by the faith which he inspired in the patient and in the people; and he was worthy of that faith.

He was the family physician. As such, he was the custodian of the family secrets; and he kept a lock upon his lips, of which no man and no woman knew the combination. He did not talk about his patients or their ailments. He was no gossip. He had attended madame in all the pains and perils of motherhood, and he had brought her children through the successive ills and sicknesses that, beginning in puling infancy, had besieged their lives to puberty and to adolescence. And he had stood by the master in all the repeated fevers that, in the virulence which characterized the fevers of that day, had struck at

the citadel of his life, and he had succored the patient. And he had gone out with the young master, and had stood by him on the field of honor—had caught him in his arms when falling by the bullet of his fellow-duellist, had staunched the red current which threatened to drain away his life—and, combining the skill of the surgeon with the office of friend, had taken him to his own home, and only broken the news to the parents when the safety of the patient was confirmed. Little wonder that in every household he had a warmer welcome even than the Old Virginia parson—that the fruits of the field and the stores of the larder were spread before him in prodigal hospitality. Nothing was withheld which could tempt the palate or comfort the inner man. And if sometimes he fell an innocent victim to hospitable excess, and left the mansion a little unsteady in his bearing, charity made loving excuse for a frailty that was very human, and it was considered no heresy, at that day, to believe that even the recording angel winked and passed the weakness by. I did read recently, in one of the registers of an old church, in one of the oldest parishes of Virginia, that he was at one time suspended for "occasional intemperance" (from the communion); but it followed that "he was re-instated," and that he died "in the communion of the Catholic church, in the confidence of a certain faith, in the comfort of a reasonable religious and holy hope, in peace with God and in charity with the world."

The Old Virginia doctor was a Christian always, but without cant, and with great charity for the foibles and infirmities of his fellowman. He had but little opportunity, amidst the exactions of a large practice, to wait upon the services of the sanctuary; but was he not ever rendering mercy? And does not the Psalmist say that the "Lord will have mercy and not sacrifice?"

There was only one class that did not love the old doctor; to them he was a terror, viz.: the children of the family and of the plantation. To the white children he was the author and the director of all the calomel and rhubarb and

jalap and oil that was given them when sick, and administered not by persuasion or promise of reward, but forced down their throats by threats of bringing in the doctor with his lancet and "pullikens" (tooth forceps). To the colored children he was something worse. He was a superstition and a fetich. His physic was made of dead men's bones. Mammy had been to his shop once, and had seen a dead man—all bones—hanging up behind the door. And he carried great sharp knives; and the nurse at the "great-house" said that he had cut off Uncle Tony's leg, when the mule ran away and broke it. But the climax came with his visit to vaccinate everybody. During the first quarter of the present century, Jenner's immortal discovery, that a prior attack of cowpox rendered the human subject immune to smallpox, had just been accepted in all its import and promise. And edict followed edict, from plantation to plantation, that all should be vaccinated. That day was a field day for the old doctor. He himself had had smallpox by inoculation during his apprenticeship, as was the custom of the day, that he might be protected from contagion in his subsequent practice. But vaccination now was known to be equally efficacious to protect the doctor, and more desirable, as the disease itself might be spread by an inoculated patient. As the doctor approached the plantation, the children who had heard of his coming fled like chickens, and had to be ferreted out from corner and crevice and bush, and brought back, *vi et armis*, with struggles and screams, that made the day a memento of pandemonium.

But whoever shrank from the ordeal, the old Doctor never faltered; and when he had planted his mark upon the biceps, time did not efface it; no septennial period demanded a repetition of the process. Not seven years, nor twenty-seven years, nor forty-seven years, nor sixty-seven years have yet effaced it, in the few who have dodged death's javelins so long. In peace and in war, in prison and in hospital, this strong talisman has stood the test of time; and this writer can testify that, in an exceptionally large experience with smallpox, he has never seen a case fol-

lowing a primary vaccination of that period. Whether the virus of the cowpox has become attenuated or adulterated, or whether the process of vaccination itself, often entrusted to laymen who are incapable of judging whether it has taken or not, the protection now does not seem as perfect.

But to return to the Old Doctor. He was always known as family man. He usually married early in life; and with the advantages of social position, wealth and culture, the latter sharpened and improved by travel—a privilege not so common or facile then as now—he was considered an eligible party, and had no difficulty in securing a desirable partner. But he was often, indeed generally, away from home—doctors being few, and the distances between the homes of his patients often great—on the mistress of the mansion devolved more than her share of the domestic duties. If his home was on a plantation, or in a country town—even then a plantation and negroes were essentially a part of a gentleman's estate—the management of affairs in general, in conjunction perhaps with an overseer, devolved upon her to a great extent.

She was known as a business woman; and as the rights of hospitality lavishly administered called to the doctor's house a retinue of visitors and retainers, on occasion and without occasion, upon her devolved, in his frequent and protracted absence, their reception and entertainment. In dispensing these offices, she was to the manner born. As the daughter of an old Virginia gentleman—and only such a woman could have filled the heart and fitted the fortunes of the Old Virginia Doctor—she was in her native sphere when playing the gracious hostess; and the doctor trusted her with a faith, born not only of personal devotion, but of pride in her pre-eminent fitness for her place. And as the mother of his children, he consigned to her, with perfect trustfulness, all the responsibility of their management—their habits, their morals, and their education. Even in their sickness, often succumbing to the habit of perfect confidence in her wise and judicious management, he left to her to do the dosing of the family, and she would give

a dozen doses of physic to his one. She was not only literally, but liberally, his helpmeet.

With but little time to attend to his pecuniary matters, and usually with but little talent or taste for finance, giving his time and labor and life to waiting on the sick bed—not asking if the patient were rich or poor, not searching the pockets of the drowning before pulling them from the water—he did not expect to amass a fortune, and such anticipations were generally realized. But the same good wife managed the affairs of his house with skill and prudence, and kept the exchequer equal to the occasion. There was no want in his family whilst living, and if he left no fortune at his death, he left the inheritance of a good name, crowned with the memory of good deeds, done unselfishly and in secret; and the tears and the prayers of the widow and orphan attested to the Master, "I was sick, and ye visited me."

But as a rustic poet, with simple but tender pathos, has written upon his gravestone—

"He started on his travels,
Many, many years ago,
For the place where life unravels,
And dividing waters flow:
So I hope he has reached the haven,
Where no anchor ever drags,
And has landed safe in heaven,
With his shiny saddle-bags."

32 *Union Street.*

Bronchitis.

℞.—Antikamnia .....ʒii
Liquor Ammon. Acet.....℥iss
Mist. Glycrrh. Comp.....ʒiv
Extra. Rad. Glycrrh. fld. ad.....℥vi

M. Sig.:—Two teaspoonfuls every three or four hours.

Art. VI.—Strychnia as a Heart Tonic in Typhoid Fever.*

By CHARLES K. KERNAN, M. D., of Lebanon, Va.

Recent enquiries among my medical friends have led me to believe that strychnia, a time honored and most potent remedy, is used much too little as a heart tonic and a general stimulant.

In this brief paper, I cannot attempt to discuss the physiological action of the drug, but will confine myself to the indications for its administration in typhoid fever especially, call your attention to the dose, and cite a few cases in which I think strychnia was used with the happiest results.

It should be given in the advanced stages of the disease, when the vital forces are failing, when the heart begins to grow weak, as shown by the rapid dicrotic pulse, when the temperature runs high, when the abdomen is distended by flatus, and when symptoms begin to develop which point to a low state of the nervous system, such as subsultus tendinum, loss of control over the sphincters, low muttering, delirium, etc. I believe strychnia, in such conditions, given in appropriate doses, will do more towards tiding the typhoid fever patient over the crisis and give him a better chance of recovery than any other agent in the materia medica.

Whether it should be used alone, and alcohol excluded, or whether it should be given in combination, is a question that has been much discussed. No less authority than Dr. N. S. Davis, of Chicago, says that "Strychnia should be used in all cases of acute diseases where a heart tonic and general stimulant is called for;" and that "Alcohol is not a heart tonic, and should not be used at all in diseases attended with marked failure of the vital forces." He states that the therapeutic effects of alcohol and strychnia are

* Presented to Medical Society of Virginia, Twenty-sixth Annual Session in Wytheville, Va.

antagonistic; that the indications for their administration are the same. While I shall not presume to question the views of so eminent an authority, I am convinced, by very close study of my cases, that their joint administration is followed by better results than either drug produces when given alone. I contend that, by combining strychnia with alcohol, you procure the same amount of stimulation from a much less amount of alcohol. The alcohol may be given one hour before the dose of strychnia; and, in this way, the strychnia seems to hold the heart at the point to which the alcohol has raised it. The expression, "Alcohol boosts the heart; strychnia furnishes the peg to hang it on," expresses the idea.

Aside from the direct influences strychnia has upon the heart, its action on the patient's general condition is beneficial. It quiets the nervous system; under its use the muscular twitching is less; he has more control over the sphincters and sleep is better; the tympanites often subsides and the general aspect of the patient is more hopeful. Perhaps the time when the potency of strychnia, as a general stimulant, is best shown is when, in the course of typhoid or any other acute disease, you want to stimulate your patient, but do not want to give alcohol on account of cerebral inflammation threatening, or on account of nausea. Case III, which I will read later, was such an one.

It is especially the dose to which I wish to call your attention. I think many physicians are not pleased with strychnia as a general stimulant, because the dose given is not sufficiently large. The dose varies from $\frac{1}{60}$th to $\frac{1}{16}$th grain. The U. S. Pharmacopœia gives the $\frac{1}{16}$th as maximum dose to begin with. H. C. Wood, in his work on *Therapeutics*, gives the dose at $\frac{1}{20}$th grain. I once sent a patient to Dr. J. J. Chisolm to be treated for tobacco amaurosis; in two weeks he returned, taking $\frac{1}{10}$th grain of strychnia every four hours. A friend of mine tells me he has known Dr. Matthews, of Louisville, to order $\frac{1}{8}$th grain strychnia hypodermically for a man in collapse from cocaine poisoning,

and would have repeated the dose in one hour had not the patient rallied within that time.

It is hard to say what the dose should be in any given case. We can only watch the patient's condition carefully and be entirely governed by the effects, just as you would give $\frac{1}{2}$ to 1 grain morphia to control severe pain or check a puerperal convulsion. It may require $\frac{1}{20}$th grain strychnia to support a patient with profound asthenia. It is told us by good authority, when a toxic dose of strychnia is given, if death does not take place in three hours, the patient will recover. So rapid is its elimination it may be given every three hours, and oftener if given hypodermatically, without fear of producing accumulative effects. A tolerance can also be very easily established. I have seen a patient beginning with $\frac{1}{30}$th grain every four hours, be able after a few days to take that same amount every two or three hours without any increase in the effect.

During the past year I have used strychnia a great deal as a heart tonic in acute diseases, and although I have given it in doses as large as $\frac{1}{20}$th grain per orem every two hours, I have not seen its toxic effects but once.

That was in the case of a negro girl, age 16, suffering with a very severe attack of typhoid, complicated with pneumonia and hæmorrhages. She was given $\frac{1}{30}$th grain every three hours for several days; then the dose was increased to $\frac{1}{30}$th grain every two hours; after the third dose, she had a sharp convulsion, which I am sure was due to strychnia. Thirty grains bromide soda was given and the strychnia dropped back to every three hours. There were no more convulsions, and the girl made a good recovery.

The sulphate is the preparation generally used, and is best given hypodermatically; if this is not practicable, it should be given with some acid solution to render it more soluble. It should not be given in pills, as the pills usually sold are not always soluble, and endanger the accumulative effects.

In selecting cases to report, I have taken cases in which a large amount of strychnia was used, to show to what extent it could be administered in suitable conditions.

CASE I.—Dr. J. A., aged 28, was taken with typhoid fever August 5th. The disease ran a mild course for two weeks; the highest temperature was 102; highest pulse, 110. On the 15th day he had a hæmorrhage amounting to about 10 ounces. From this time he grew worse. On the 16th day, Dr. Huffard, ex-member of our State Medical Examining Board, was called in consultation. We found the symptoms as follows: Pulse, 125 to 130, and very feeble; 2d, heart sound, weak, subsultus tendinum present, no delirium, tongue moist, abdomen much distended and tender, bowels loose, no blood since the first hæmorrhage. In addition to his nourishment, he was given $\frac{1}{30}$th grain strychnia with $\frac{1}{2}$ ounce whiskey every four hours. His symptoms not improving, the following day it was given every three hours, and finally every two hours. His condition, with perhaps a slight improvement in the pulse, remained the same until the twentieth day, when a severe abdominal pain seized him, and in a few hours he sank into a collapse.

The symptoms at this time were as follows: Pulse, very weak, hardly perceptible; skin very moist; temperature, 95°; unconscious. Such was his condition that it was the opinion of his physicians that he would not last through the night. An hour had elapsed since he took $\frac{1}{30}$th grain strychnia; he was at once given $\frac{1}{20}$th grain hypodermically, and repeated the injection in one hour. About this time he recovered consciousness and asked to what the collapse was due; said he feared it was another hæmorrhage. From this time to his death, on the twenty-sixth day, he was given $\frac{1}{30}$th grain strychnia hypodermically and 1 ounce whiskey (the greatest amount his stomach would tolerate) every hour. The pulse, up to a few hours before his death, was as good as it had been for several days previous. There were no convulsions nor any symptoms to point to the fact that he had taken too much strychnia. He died on the 26th of general peritonitis.

I report this case to show how much strychnia it is possible to give in appropriate cases without producing toxic effects.

CASE II.—Mrs. H., a stout, healthy blonde, age 23, was confined with her first child October 1st, 1894. November 20th she was taken with typhoid fever. From the first, her pulse was very rapid and weak. In the second week her pulse was 140 and feeble; temperature, 102 to 105°; no delirium nor subsultus tendinum; bowels in good condition.

She was given $\frac{1}{30}$th grain strychnia and $\frac{1}{2}$ ounce whiskey every three hours I continued that dose for three days, and then, as she showed a marked improvement (the pulse had fallen to 115 to 120), the time between the doses was lengthened. The patient made a good recovery, and was discharged on the 20th of December.

Case III.—M. A., a delicate, frail girl, aged six years, developed typhoid fever October 3d. Did very well for two weeks, when her condition became alarming. Pulse, 150 to 160, very feeble; temperature, $103\frac{1}{2}$ to 104; is very nervous, hands and arms moving continually. Does not sleep; complains of head, which is drawn back and continually rolls from side to side. She was given at this time, besides plenty of nourishment, $\frac{1}{10}$th grain of strychnia with $\frac{1}{4}$th ounce of whiskey every four hours. On account of a tendency to brain inflammation, the whiskey was discontinued, the ice cap applied to her head, and the strychnia increased to $\frac{1}{40}$th grain every three hours. No toxic symptoms from the strychnia were manifested. In three days there was a decided improvement in the pulse, and recovery was established on the 28th.

Case IV.—C. W., a robust negro of 25, developed typhoid fever November 2d. Temperature very high from the beginning of the disease, reaching 104 in the morning and 105 in the afternoon. At the close of the second week the following symptoms were present: Pulse, 125 to 130, very feeble and dicrotic; temperature, 102 to 105°; low muttering delirium; patient very dull and hard to rouse; subsultus tendinum; picking at bed clothes and reaching out for imaginary objects; no control over sphincters of bladder. On the 15th, had three hæmorrhages in rapid succession, followed by increased weakness. He was given $\frac{1}{20}$th grain strychnia and 1 ounce whiskey every two hours. Two days later he had two more hæmorrhages; the same amount of strychnia was continued. On the 25th, the fever began to decline, and patient made an uninterrupted recovery.

Case V.—C. S., white, a delicate boy of 13, was in bed with typhoid fever April 29th, 1894. Pulse and temperature ran high from the first. On the 15th day of May, he developed a congestion of both lungs; pulse, 135; temperature, 102 to 105°; wild delirium; continually pulling at bed clothes; urine and fæces discharged in bed; bowels constipated. Was given $\frac{1}{30}$th grain strychnia and $\frac{1}{4}$th ounce whiskey every three hours, which amount was raised to every two hours. In a few days the pulse, and with it the

general condition, began to improve, and he made a good recovery.

During the past year, I have treated fifty-four cases of typhoid fever, with three deaths. A large per cent. of the cases treated were severe cases, and strychnia was used whenever indicated. Two deaths were from perforation and one from meningitis. I believe that, if strychnia is given in sufficient doses, we would have fewer deaths from heart failure to report.

Art. VII.—A Thesis on the Surgical Anatomy and the Operative Surgery of the Kidney.

By RAMON GUITERAS, M. D., of New York, N. Y.

Professor of Anatomy and Operative Surgery in the Post-Graduate Medical School; Consulting Surgeon to the French Hospital; Surgeon to the Columbus Hospital and to the City Hospital (G.-U. Department).

In considering this subject, there are certain factors to be taken into consideration: (I) The kidney as it exists normally, referring to its gross anatomy, size, shape, function, etc. (II) The position of the kidney and its relation to the surrounding tissues. (III) The pathological conditions and the changes brought about by them. (IV) The methods of examining it. (V) The various operations for the relief of the pathological conditions, and when and how they should be performed.

(I) *The Kidney as it exists normally, referring to its gross anatomy, size, shape, function, etc.* The kidney is a bean-shaped organ, four and one-half inches long, two and one-half wide, and one and one-fourth thick. Its weight is four and one-half ounces. In color, it is reddish brown, with a purplish tinge in places. It is enveloped in an elastic fibrous sheath or capsule, and surrounded or imbedded in extra-peritoneal fat, which forms an outer coating. It is rounded or convex on the external border, which is longer than the internal, and looks outwards, backwards, and

slightly upwards. The inner border is shorter and hollowed or concave, the concavity forming the space known as the hilum. It looks inwards, forwards, and slightly downwards. The anterior surface is convex and flattened, and looks forwards and outwards. The posterior surface is also flattened, and looks in the opposite direction. The upper and lower ends are rounded or convex, the former being thicker and wider than the latter, and also nearer the median line. They support the supra-renal bodies.

The hilum is the slit-like aperture in the middle of the inner border of the kidney, bounded in front and behind by two prominent lips. It is the entrance into the sinus or cavity of the organ. Through the hilum, the ureter, blood-vessels, lymphatics, and nerves, pass into the kidney.

The proximal end of the ureter is expanded and fits into the hilum—the mucous membrane of the ureter and the whole of the sinus being continuous.

At the bottom of the sinus or concavity of the kidney, there are little hollows or pouches, called calices, into which one or more papillæ empty. These papillæ are perforated by the openings of the secreting tubes (uriniferous), and form the apices of the pyramids of Malpighi. Between these, or into the space going up between the pyramids, are the apertures for the transmission of the vessels and nerves through the organ.

The sinus or cavity of the kidney, together with the broad opening of the ureter, is generally spoken of as the pelvis of the kidney.

It may be well to review this part again, and in a reversed manner, to see if it can be made more comprehensible. The ureter begins in eight or nine shallow tubes, called calices, which surround the renal papillæ. These join one another, forming infundibulæ, or an upper and lower pelvis, which, in turn, unite to form the common pelvis of the kidney that narrows down into its secreting tube, the ureter proper.

The vessels of the kidney have already been described as entering the hilum, passing through the pelvis, and up

between the pyramids. In regard to the size of the vessels and their origins, it may be said that the renal arteries proper are about the size of the brachial. They come off from the aorta about opposite the gap between the last dorsal and first lumbar vertebræ, and divide into four or five branches before entering the hilum. The right passes behind the vena cava.

The veins pass out correspondingly in four or five branches, which unite to form the renal vein that empties into the vena cava. The left passes in front of the aorta. The order of the vessels and ureter entering into the kidney is as follows: From before backwards, vein, artery, ureter; and from above downward, artery, vein, ureter. The lymphatics and nerves, both cerebro-spinal and sympathetic, accompany the blood vessels, the latter coming from the renal plexus and the lesser splanchnic.

If a cross section of the kidney laterally is now made, the pelvis or hollow portion is seen, with the various little calices leading off from it, into which the papillæ protrude, and around this hollow portion the solid part of the organ.

The solid portion is divided into two parts, the medullary and the cortical. The former is situated around the pelvis and composed of tubes, straight and looped, forming pyramids, with their bases towards the periphery. Their apices, points where the straight tubes converge, empty through the papillæ into the calices. The cortical portion is situated around the medullary, between it and the periphery. It also extends down between the pyramids, forming the columns of Bertini, through which the vessels pass into the deeper part of the cortical substance.

In the main part of the cortical substance are the uriniferous tubules, with little convoluted branches, at the end of each of which is an expansion or capsule. In this capsule is a little tuft of capillary blood-vessels, connected with which are two main ducts or vessels—an afferent one, the artery, and an efferent one, the vein—branches of the ves-

sels already alluded to as passing through the columns of Bertini.

The physiology of this apparatus, stated briefly, is practically as follows: The artery brings the blood from the general circulation into the glomeruli, where a sifting process takes place, and the effete products are drained out in solution and pass down the uriniferous tubes into the pelvis. The veins from the glomeruli, containing the blood freed from certain of its impurities, form a plexus around the tubules, where a further interchange takes place, and then carry the purified blood back again to the general circulation.

This brief outline of the circulation of the kidney has not much importance on the subject, except to show how certain pathological conditions may occur, such as cystic tumors and calculi, which are to be considered later.

(II) *The position of the kidney and its relation to the surrounding tissues.* The kidneys lie in the hypochondriac, epigastric, lumbar, and umbilical regions, behind the peritoneum, in a kind of lymph space in the fat bearing subperitoneal tissue, opposite the last dorsal and the three upper lumbar vertebræ (Heath). This is rather vague, however, as, if these regions were to be drawn out, it would be difficult to know just how much of the kidney to locate in each of them; and if a man not accustomed to the study of anatomy were to attempt to locate their positions by the vertebræ, he would find it most unsatisfactory.

It is, therefore, evident that it is as important for the surgeon to know under what part of the surface area the kidney lies, in front and behind, as it is to know with what tissues it is in immediate relation. The laity, and quite a number of the profession, have not a clear idea of the position of the kidney, as is evident by the localities in which they search for it, and the location of the pain which they attribute to it. Those who are not familiar with its position seem to think that it lies lower in the abdomen than it is usually found.

My method of locating the organ is as follows: The right

organ is one-half to three-fourths of an inch lower than the left, and its lower border is on the level with the umbilicus. A horizontal line drawn around the body at the level of the umbilicus would therefore locate its lower border anteriorly, posteriorly and laterally. As the kidney is four and one-half inches long and two and one-half inches wide, and its hilum is usually two inches from the linea alba, the outer border would be four and one-half inches from the median line were it not for the fact that the kidney inclines backward as well as outward, which would cut down this measurement somewhat. Again, if it is measured upward, four and one-half inches (the length of the kidney) from the horizontal line, at a distance of from two to four and one half inches from the linea alba, the upper end of the organ would be found to extend well up under the ribs, forming the boundaries of the subcostal angle. It would thus seem that about two-fifths of the kidney on the right side is practically behind the liver, whereas fully one-quarter of the organ, on the left side, is behind the stomach. This can be more plainly seen later on when the deeper structures in relation to them are examined.

If now the abdominal wall and the anterior parietal layer of the peritoneum are removed, and the greater omentum and small intestines pushed out of the way, the tissues in direct relation to the kidneys anteriorly are brought into view. They are in front of the right kidney, the duodenum, colon, meso-colon, and the peritoneum over the hepatic area. On the left side, the pancreas, colon, meso-colon, and the peritoneum over the gastric area.

Posteriorly, the tissues in relation to the kidney are not so important, but it is most necessary to be familiar with them, as it is in this locality that the incisions for the various kidney operations are usually made. Again, referring to the horizontal line, drawn around the body at the level of the umbilicus, the lower border of the kidneys can be determined, and, calculating on the same basis as in the anterior measurements—that is to say, that the hilum is two inches from the median line—it will be seen that the kidney

occupies a space from two to four and one-half inches from it on either side, to a point four and one-half inches above the horizontal line; and bearing in mind that the upper ends slant towards one another, these organs can be easily traced on the surface posteriorly so as to correspond exactly with the areas in front. It must be borne in mind, however, that the kidneys are at a considerable distance from the surface, and that the diaphragm, which covers from one-third to two-fifths of them posteriorly, plays a most important part in their surgical relations.

If the skin and muscular walls of the loin are removed, it will be noticed that there is no peritoneum covering the kidney posteriorly, and no viscera over its posterior surface, and that the muscles themselves, with the exception of the last rib, are the only tissues in relation. These muscles are the diaphragm, psoas, and quadratus lumborum. Both organs usually come up as high as the eleventh rib, but are separated from it by the diaphragm.

(III) *The Pathological Conditions and the Changes brought about by them.* The surgical anatomy, that is, the size, shape, construction, and position, of the normal kidney, having been gone over, the pathological conditions which demand operative surgical interference should be considered briefly. They are traumatisms, calculi, pyelitis, pyelonephritis, pyonephrosis, cysts (simple and hydatids), malignant tumors (sarcomas and carcinomas), tuberculosis, perinephritis, fistulæ (renal and perinephritic), and floating or movable kidneys.

Traumatisms of the kidney are of two kinds, (a) open, and (b) subcutaneous.

(a) Open wounds are usually caused by stabs or bullets, and are directly connected with the surface. In these cases there is danger from infection if the surface wound remains open, and of death from hæmorrhage, peritonitis, or, later, pyelitis, or perinephritis, if the wound in the kidney is not treated.

(b) Subcutaneous wounds are of more frequent occurrence. They are due to indirect or direct violence, as falls,

blows, kicks, crushes, etc. In these cases the wound may heal without any complications. On the other hand, internal hæmorrhage, either peritoneal or retroperitoneal; leakage of urine in the same localities, or the various suppurative conditions, may follow.

Renal calculus or nephrolithiasis is a condition frequently requiring surgical interference. If they are of small size, and free in the pelvis of the kidney, they usually pass through the ureters; but if of a size too large, they become embedded occasionally in the dilated tubules, although more usually, in the calices, or pelvis of the organ. There may be one or more varieties of these calculi, the principal of which are the (a) uric acid and (b) oxalate of lime.

(a) The uric acid variety is the most frequent. These are often associated with gout. They occur usually in adults, and in appearance are smooth and of a yellowish red color.

(b) The oxalate of lime calculi usually occur in people over forty years ef age. They are of a reddish brown color, and of irregular shape, for which reason they are frequently called mulberry calculi.

(c) Another form is that composed of the earthy phosphates. These are of a grayish color and quite friable.

Calculi give rise to such conditions as pyelitis, pyelonephritis, pyonephrosis, and hydronephrosis.

Pyelitis is an inflammation of the pelvis of the kidney, usually due to stone or an inflammation ascending from the bladder. In suppurative pyelitis, small abscesses may form in the parenchyma, constituting a *pyelonephritis*, and resulting in an atrophy of the kidney tissue through pressure, or the pelvis may become so distended by the accumulation of pus that the kidney is transformed into a purulent cyst, *pyonephrosis*. This also causes atrophy of the kidney tissue.

Hydronephrosis is an accumulation of urine in the kidney due to an obstruction either in the ureter, pelvis or one of the smaller ducts. It may be intermittent or constant. The *intermittent type* is due usually to a kinking or plugging

of the ureter, and is relieved when the obstruction is removed. The *constant* occurs when the obstacle cannot be overcome. In these cases the same change takes place as occurs in pyonephrosis, only, as the formation of urine is more rapid than that of pus, it grows more quickly and assumes a larger size, and cases have been cited where the waist was six feet in circumference and over thirty gallons were found in the tumor.

Cysts of the kidney are simple and hyatid The *simple* may contain urine, pus or blood, and may be single or multiple. They often attain a large size. They are occasionally bunched together in a grape-like mass, called a conglomerate cyst. A case of this kind has been reported which was fifteen inches long and weighed sixteen pounds. *Hyatid* cysts may occur here, as elsewhere.

Malignant tumors of the kidney also occur. These are sarcomatous or carcinomatous. The sarcomas are generally found in the young. They vary in size, sometimes reaching as high as twenty or thirty pounds. The carcinomas are usually of a small size. Lymphadenomas have also been found here from time to time.

Tuberculosis of the kidney may be of the miliary type, which occurs in general tuberculosis, or as a localized condition where cheesy nodules are found that cause degeneration of the organs, and the formation of abscesses, which latter condition is associated with pyelitis.

Perinephritis is usually an inflammation occurring in the cellular and fatty tissue about the kidney, forming what is known as a perinephritic abscess. This points usually in the lumbar region, to the outer side of the erector spinæ muscle, although it may burrow behind the peritoneum and point in some locality much more remote.

Fistulæ are also seen in this locality. They are *renal* or *perirenal*. The former is connected with the kidney, as the result of a wound or an operation on the organ. The latter is in connection with the tissue about the kidney, and probably the result of a perirenal abscess.

Floating kidney and movable kidney.—These conditions are

usually spoken of as one and the same, but the real *floating kidney* is a congenital form where the gland is supported in a peritoneal fold of its own, the meso-nephron, and where the renal vessels are of undue length.

A *movable kidney* is usually found in emaciated subjects, or those who have had a long sickness. It is caused by an atrophy of the perirenal fat. The kidney is held in position mainly by the peritoneum over it, which is attached to the perirenal fat on its sides. It is therefore easy to see that if this is absorbed the kidney will slide about, not being restrained by the peritoneum which has thus become relaxed. The movable kidney is usually found in women, and on the right side.

IV. *Methods of Examining the Kidney.*—They are two, the indirect and the direct. The *indirect* includes inspection, percussion, palpation, and cystoscopy.

In *inspecting* you notice the changes in outline of the abdominal, costo-iliac and lumbar regions. This is of service, especially in large growths, such as cystic tumors, hydronephrosis, etc. It is also useful in remarking the position of sinuses connected with suppurative diseases of the kidney. These are usually found in the lumbo-costal regions, and are to be differentiated from those due to conditions of the pleura and liver—the former of which point between the ribs, the latter in the hypochondriac region. Abscesses of the spleen tend to point more in the region of the flank.

Palpation.—It has been observed, in considering the position of the kidney, that it lies some distance from the surface anteriorly, especially in fatty individuals, and that posteriorly it is partly beneath the floating ribs, the transverse processes of the vertebræ and that thick mass of muscle, the erector spinæ. It is therefore only the outer part of the lower rounded end that comes into the angle between the erector spinæ and the last rib, and this is beneath the quadratus lumborum and the dense fascia lumborum. It is therefore easy to realize how exceedingly difficult it is to palpate this organ; and such authorities as Guyon, Israel

and Bright state that the normal kidney cannot be distinguished by palpation.

In palpating the kidney, there are two positions for the the patient—the dorsal and the lateral. In the dorsal, the subject naturally lies on the back, with the thighs slightly flexed, and is then directed to breathe lightly. If the examiner palpates with one hand, he sinks his fingers under the false ribs on that side and presses, lightly at first, increasing the force gradually. On pressure the fingers come in contact with a resisting rounded body, the lower portion of the kidney. If one hand is used, it should be the right hand on the right side, and *vice versa.*

The bimanual method is preferable. Here the examiner presses under the false ribs with the fingers of one hand, laterally or posteriorly, and over the region of the kidney in front with the other. If examining the right side, the surgeon places himself on that side of the patient, and uses his left hand in the costo-iliac region, and his right over the abdomen in front. In examining the left kidney, the order is reversed. In this way, the size of any tumor can be noted almost exactly; also its mobility, as to whether it moves more readily, vertically, laterally or anterio-posteriorly. It is also important to observe the form, consistency, and sensitiveness of the growth, and to determine the presence or absence of fluctuation.

In the lateral position, the subject is placed on the flank of the sound side, thus allowing the kidney to fall away from the false ribs on the side to be examined. In examining laterally, either one or two hands may be used.

The knee-chest position is sometimes of advantage in determining the presence or absence of adhesions.

Cystoscopy is also an important aid to diagnosis through observing directly the condition of the bladder below, and the quantity and quality of the urine secreted by the individual ureters.

Direct examination is by puncture and incision. The puncture can only be used in tumors which seem on palpation to contain fluid. This procedure has many support-

ers, although it is strongly condemned by others, as leakage and spreading of infection are liable to follow.

In regard to the exploratory incision, it is hard, at times, to decide whether it should be lumbar or abdominal. If the tumor appears small, or if it is desired to inspect the organ minutely, the lumbar incision is preferable. In this case, it can be examined from all sides. In examining the front surface it is necessary only to steady it against the spinal column; while in making a posterior examination, it is best to palpate it between the fingers. The abdominal incision is to be made when the tumor is too large to explore by the lumbar incision.

V. *The Various Operations for the Relief of the Pathological Condition, and When and How they Should be Performed.*—The final part of the subject, which is really the chief one in importance, has now been reached. It is to consider the ope tive work on the kidney. The position and relation of the organs from a standpoint of surgical anatomy have been quite thoroughly considered, and the conditions requiring operations have been enumerated briefly. It might be well, therefore, to take up first the regular kidney operations and afterwards the other surgical procedures which occasionally have to be resorted to.

The operations on the kidney are: (*a*) *Nephrotomy*, cutting into it. (*b*) *Nephrolithotomy*, cutting into it to remove a calculus. (*c*) *Nephrectomy*, extirpating it. (*d*) *Nephrorraphy*, fastening it to the abdominal wall when it is too movable.

The incisions for these operations are the same as those made for exploring the organ, and are situated either in the lumbar or in the anterior abdominal region. In the former, they are the longitudinal, the transverse, and the combined; and in the latter, simply longitudinal. In all lumbar incisions, the patient should be placed on the healthy side, with a pad beneath the flank to make more room in the costoiliac region on the diseased side, and the legs should be slightly flexed. In making the longitudinal incision, it should be borne in mind that the principal mass of muscle

in the lumbar region is the erector spinæ, and that the outer margin of this muscle is from two and one-half to three inches from the median line. Therefore, if the incision is made three inches from the spines of the vertebræ, and from the twelfth rib to the crest of the ilium, it is evident that it will extend into the space between the erector spinæ and the internal oblique muscles, and on to the middle layer of the fascia lumborum, which covers the quadratus lumborum muscle, and is about over the middle of the kidney.

Surgeons often give the line of incision as one from the eleventh rib to the iliac crest. This, however, is never safe, as in such a case there is danger of opening the pleural cavity. Another important point is to remember that the twelfth rib is often absent, or very small, in which cases the incision would be from the eleventh rib, and the pleural cavity would again be in danger. It should therefore be set down as a rule, and a very important one, to count the patient's ribs on every occasion before making the lumbar incision.

After cutting through the quadratus lumborum and the remaining layers of the fascia lumborum, the perirenal or fatty tissue is reached, through which an incision must be made before coming to the kidney proper. A portion of the capsule having been exposed, one finger is introduced between it and the fatty sheath, and the latter is carefully shelled off the organ toward the median line. Sometimes, when quite adherent, it is easier to hold the part already freed in the fingers of one hand while the remainder is peeled away with the thumb and forefinger of the other, or with the handle of the operating knife.

When the kidney is thus freed, it should be examined carefully on all sides. There is not much room for a thorough examination, however, in this way; and if more room is needed, one of the other incisions had better be performed. The transverse incision in the lumbar region is four inches long, and is made just below and parallel to the twelfth rib from tne outer border of the erector spinæ muscle. By this incision, the same tissues are gone through as by the former

one. Here care must be taken in cutting down through the various layers, lest the peritoneal cavity or large intestines be opened into.

The combination incision is probably the best in the lumbar region. This is more or less curved. It starts as the longitudinal, just below the twelfth rib on the outer side of the erector spinæ, and continues down to the iliac crest, where it is turned inward for some distance. By this method, there is much more room for investigation, as the intestines and peritoneum tend to fall downwards, forwards, and away from the space opened. In all these cases, the twelfth rib and the erector spinæ muscles can be pulled aside by retractors, thus giving more space to work in.

The anterior or abdominal incision is usually performed in cases where the growths are of large size. Here, again, the cut is a longitudinal one, made three inches from the median line in the linea semilunaris and about over the middle of the kidney. Another guide on the abdomen, which one frequently sees mentioned to locate the position of the kidney, is a perpendicular line drawn upwards from the middle of Poupart's ligament, which would have one-third of the kidney on the outer side and two-thirds on the inner (Treves).

In operating anteriorly, the incision in the semilunar line is preferable, as here there is less hæmorrhage. After cutting through the skin, superficial fascia and muscular septas, the peritoneum is reached, which is nicked and then slit up on the forefinger with the scissors, as in other abdominal operations. It is advisable in these cases to pass a retention suture through the abdominal wall and peritoneum on either side, and to have them retracted while the exploration is being made. The greater omentum next comes into view, which is very rarely adherent in these cases, and should be pushed upwards, while the mass of small intestines should be drawn to one side. The region of the kidney is now reached, with the colon, meso-colon and other tissues anterior to it that have already been referred to in the regional anatomy of the subject, depending on the side

involved. It now becomes apparent how important it is to have a long incision in order to examine it thoroughly and properly, as the kidney lies so deep in the posterior abdomen. If it seems necessary to free the organ, in order to complete the examination, this can be done directly or indirectly If directly, an incision should be made through the peritoneum forming the meso colic covering, which should then be carefully dissected away with the other important tissues in relation to the organs anteriorly, taking great care not to injure them. If indirectly, and this is by far the safer procedure, an incision is made through the peritoneum on the outer side of the colon, which, together with the other tissues in direct relation anteriorly, should be dissected away toward the median line until the organ is reached. These incisions are of great importance in cases of gunshot wounds of the kidney to determine if any of the tissues in relation to it have been wounded. It is very important that the incisions made through the different layers of the peritoneum should be closed again to prevent any of the viscera from passing through them and becoming strangulated.

(*a*). *Nephrotomy* consists in cutting into the kidney by whatsoever approach, either in its solid or pelvic portion, to relieve it of any pathological condition which may exist there. The method of approach preferable in these cases is by the combined lumbar incision. The pathological conditions to be overcome are the accumulations of pus or urine, or the removal of a renal calculus. In the first two of these conditions, the incision into the kidney depends on the location and extent of the lesion. In the last, it is considered preferable to cut through the parenchymatous portion to remove the calculi, even if this be in the pelvis, as it is thought that an incision of this kind heals much more rapidly after careful suturing. This operation is known as (*b*) *nephrolithotomy*. The manner of dressing the kidney after this operation varies. In the first two conditions above referred to, a small velvet-eyed drainage tube inserted into the cavity and packed about with iodoform gauze is

probably the safest; while in the last of these conditions, if the kidney has been opened through the solid portion and the pelvis is found healthy, after careful suturing, a simple iodoform packing down to the incision in the capsule is sufficient.

(*c*). *Nephrectomy* may also be performed through the posterior or anterior incisions, preferably the former, of the combined lumbar variety. The steps of approach are the same as in the exploratory and nephrotomy incisions. The fatty capsule of the kidney should be pushed away in the direction of the pedicle in the same way as mentioned under exploratory incisions. If inflammatory adhesions have not taken place between the capsule and the postperitoneal fat, this can be easily done. If, however, adhesions to the peritoneum, colon, duodenum, pancreas, vena cava, etc., do exist, and the breaking up of them seems dangerous, the posterior part of the kidney can be excised and as much of the parenchyma and other involved tissue as possible can be curetted away. The ligating of the pedicle is an important part of the operation. This should be done with an aneurism or pedicle needle, and either in sections or *en masse*.

My own method is as follows: The kidney having been freed, and the surrounding tissues pushed carefully over the pedicle in the direction of the median line until the organ is as movable as possible, I flatten the pedicle between the thumb and forefinger of one hand and apply a long-jawed clamp, endeavoring not to include the ureter in the clamped tissues. I then ligate the vessels separately, or in groups on the inner side of the clamp with silk sutures, using an aneurism needle, and afterwards cut them with the scissors on the outer side of the clamp; the distance from the knot to the cut end of the vessels should be fully one-half inch to prevent slipping and secondary hæmorrhage. The kidney now hangs by the ureter alone, which I proceed to cut leisurely from one to two inches from the organ. The cut end should be ligated, and then washed carefully, after which, it should be inverted and sewed up in this position. Sometimes the end is touched

with the cautery or pure carbolic acid. By this double treatment, any leakage from the ureter is prevented. The cavity remaining should then be packed with iodoform gauze and dressed accordingly.

In *abdominal nephrectomy*, or nephrectomy by the anterior incision, the approach is the same as in nephrotomy; that is, in the linea semilunaris. The omentum and small intestines having been pushed to one side, the immediate region of the kidney is reached. Here opinions differ. Some recommend cutting directly through the mesocolic area and securing the vessels, and then making a second incision along the outer side of the colon, through which the kidney is approached laterally, and then freeing and removing it; while others recommend performing the entire operation by the peritoneal incision on the outer side of the colon. It appears to me that the latter is simpler and better. The remaining steps of the operation are similar to those of the lumbar operations, excepting the drainage. This should be made by packing the cavity with iodoform gauze and bringing it through an opening made in the lumbar region. The incisions in the peritoneum should be closed by suture, as in other operations. Partial excision of the kidney has at times been practiced—the remaining part of the kidney being brought together again and fastened by suture.

(*d*) *Nephrorraphy* consists in anchoring or attaching a movable or floating kidney to some fixed point on the inner wall of the abdominal cavity. For this class of operations the longitudinal lumbar incision should be employed. A stout silk suture is usually passed through the convex border of the kidney, which is then made fast to the lumbar fascia. A satisfactory result is not always obtained in this way, and it might be well, therefore, to describe briefly Edebohls' operation, which seems to be more complete and of a better technique than any other as yet written upon. Edebohls places the patient in the Sims' position, with two small pillows under the left loin (the operation on the right side being most frequent). He makes the longitudinal incision

slanting it slightly outwards. He then cuts down to the kidney, frees it of its surrounding fat over the outer or convex border, and makes an incision through the capsula propria along the whole of its convexity in the mesial line. After this, he dissects away the capsule until one and one-quarter centimetres of the kidney's substance is exposed on either side. The stripped-off capsule is turned back like the lapel of a coat. This leaves a raw kidney surface ten to twelve centimetres long and two and one-half wide for union with deep parts of the lumbar fascia. The kidney is then attached to the muscles and aponeurosis of the abdominal wall by buried sutures of silk-worm gut or kangaroo tendon. These should not be tied too tightly. Drainage is provided for by inserting ten to twelve strands of silk-worm gut along the lower edge of the kidney and allowing it to protrude at either end of the incision. The wound should be closed by catgut and dressed accordingly.

Before finishing this subject, it will be well to take up the different pathological conditions separately, and indicate what other operative work can at times be resorted to before performing the more regular operations.

Traumatisms of the Kidney.—In these cases, it is necessary to act quickly, as there are conditions of leakage of blood and urine which may prove quickly fatal if not attended to; and as the majority of the cases are of the subcutaneous type, it often happens that the real condition is not known at first.

If the wound is an open one, an exploratory incision should be immediately made, and the point of entrance of the bullet, weapon or missile will indicate whether this should be anterior or lumbar. Having cut down to the kidney, it should be carefully examined. If the parenchyma is wounded, the sides of the wound can be brought together by the interrupted, the continuous, or the purse-string sutures. If the pelvis of the kidney is wounded through the cortex, allowing the escape of urine, this can be overcome by suturing the cortex. In all cases the clots should be removed, both from the kidney substance and the sur-

rounding region. If any of the vessels in the pedicle of the kidney, or any of the large branches in the kidney proper are actively bleeding, they should be ligated immediately. It is apparent that open wounds of the organ are usually made either by the knife or the bullet, and from in front or behind; and, as they generally occur in fights of some kind, the majority are made anteriorly. Again, the force of a weapon or missile sufficiently strong to wound the kidney anteriorly, would probably traverse the organ and come out posteriorly. As there are so many important viscera in front of the kidney, it is evident that particular attention should be paid to them. The small intestines should be pulled carefully through the fingers and the remaining viscera, the colon, meso-colon, pancreas, and duodenum immediately connected with the kidneys should be searched and repaired if necessary.

After repairing the kidney and its adjacent tissues, the question of drainage should be considered. The position and extent of the wound should be the guide. If through the cortex, it should be sewn up anteriorly and posteriorly, and the region of the back of the kidney should be packed with gauze to provide for drainage posteriorly through an opening made in the lumbar region. If the pelvis should happen to be wounded both anteriorly and posteriorly, it would be advisable to sew it up anteriorly and insert a velvet-eyed drainage tube into the pelvis posteriorly, to be packed around by iodoform gauze and brought out through the lumbar region. It does not seem to be advisable to plug with gauze alone in cases of wounds of the pelvis where urinary leakage may be expected. If the wound is very extensive, nephrectomy should be performed.

If the kidney is wounded subcutaneously, it is probable that the organ itself will suffer more than its surrounding viscera, on account of its firmer consistency; as these wounds are usually due to falls, kicks, crushes, etc. In these cases, there is also the same danger of hæmorrhage, urinary infiltration, and suppurative sequelæ; and in severe cases, the

exploratory incision alone will indicate whether nephrotomy or nephrectomy is called for.

Renal Calculi.—In this condition, having decided upon the kidney affected, a lumbar incision should be made and the kidney exposed. The organ should then be palpated carefully between the fingers, and if the calculus cannot be located in this way, it should be probed for by a sharp, fine needle through the parenchyma. If the stone is located by this means, an incision should be made into the organ posteriorly. This can be done through the parenchyma or through the pelvis. The one through the parenchyma is considered preferable, as it can then be sewn up, and there is less danger of hæmorrhage or urinary infiltration. If the stone is free in the pelvis, it can easily be extracted by the fingers or forceps, but if wedged into the calices, it will have to be freed by the scissors or knife, or else crushed by forceps. If the pelvis is cut into and the stone removed in this way, a velvet-eyed drainage tube should be introduced and packed about by iodoform gauze to insure drainage, and should be brought out through the lumbar region. In this way, a urinary fistula is very liable to occur; whereas, in opening through the parenchyma, then sewing up the wound and simply packing with gauze from the kidney surface, the danger of a urinary fistula would be diminished. If the removal of the stone necessitates great mutilation, or it has been present for some time and given rise to suppurative changes, which have caused considerable disorganization, such as pyelitis, pyelonephritis, or pyonephrosis, it is necessary to decide between a nephrotomy and a nephrectomy. Cases calling for the latter, are those where the amount of pus is so great that it cannot be easily drained away, or where the disorganization of the parenchyma is extensive.

Pyelitis.—In the treatment of this condition, the cause has to be considered. If due to a stone, nephrotomy is indicated, with posterior drainage. If to an extension of an inflammation upwards from the bladder, as in cases of vesical calculus, enlarged prostate, or urethral strictures, these con-

ditions should be overcome first, if possible. If, however, it appears that the condition has further advanced, and that a pyonephrosis has developed, a nephrotomy should be performed, to be followed by a nephrectomy in case the destruction of the parenchyma is extensive.

Hydronephrosis.—In the treatment of this trouble, the intermittent type does not warrant an operation, but it should be very carefully watched. When constant, it is either single or double. The single is due to an obstruction in one kidney or ureter. The double occurs when the obstruction is in the bladder, prostate, or urethra, in which latter case, these conditions should be relieved, or a double nephrotomy, with posterior drainage performed. In single cases, which are usually due to a calculus in the ureter, aspiration may be tried. This is usually followed, however, by a rapid return of the trouble and often by a fistula, so that a nephrotomy has to be resorted to. Here the transperitoneal or anterior incision has many advocates. In this operation, having cut down to the tumor, the contents are carefully aspirated, guarding the peritoneum, and an incision is made in the tumor wall, which is then stitched to the skin and a careful exploration made. After this, a drainage tube should be inserted, and in a few days after adhesions have formed, an effort should be made to remove the obstacle. If not successful, a permanent fistula remains in case a nephrectomy is not performed.

Cysts of the Kidney.—In the case of one large cyst, nephrotomy should be resorted to. It should be cut down on to and aspirated, after which, the edges should be stitched to the skin If it has been sufficiently large to cause a destruction or atrophy of the kidney tissue, nephrectomy is called for. In cases of a conglomerate cyst, the destruction of the kidneys is almost certain, and nephrectomy should be performed. If the cyst is a hydatid one, after cutting down and aspirating it, an injection of 1 in 1,000 bichloride of mercury or strong carbolic solution, may produce a radical cure. If there is destruction of the kidney, nephrectomy is advisable.

Malignant Tumors, Carcinoma, and Sarcoma.—In these cases, nephrectomy should be performed as soon as the diagnosis is made.

Tuberculosis of the Kidney.—When this is of the miliary type, associated with a general affection, no operation is warranted, but when it is a localized affair, associated with a pyelitis, nephrectomy should be performed if the condition is unilateral.

Perinephritic Abscess.—These should be opened as soon as possible by the lumbar incision, and the cavity packed with iodoform gauze.

Renal and Perirenal Fistulæ.—If the fistula is due to a calculus, it should be removed. If it originates in a tubercular condition, iodoform and glycerine may be of use. If no other method succeeds in these cases, when the fistula is a renal one, a nephrectomy is warranted. Suppurative sinuses may be swabbed out with strong carbolic acid solution.

23 *West Fifty-third Street.*

Art. VIII.—Abscess of the Liver in Children, with Report of a Case of Amœbic Abscess.*

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Abscess of the liver, of common occurrence in adults in temperate regions, and particularly so in tropical climates, is very rare in children. The causes which give rise to liver abscess in adults seem comparatively ineffective in children.

This article is based upon a study of the records of thirty-six reported cases, and one which has occurred in my own practice. Thirty-four of these cases were collected and

*Prepared for Medical Society of Virginia, in Wytheville, September 4, 1895.

analyzed by Dr. Musser,* and seem to have been all that he was able to find in the available medical literature of German, French, English, and American writers. Since the publication of Musser's article, two additional cases have been reported—one by Monnier,† in France; the other by Pereira,‡ in India.

Of these thirty-six cases, nine seem to have occurred in Great Britain, twelve in Germany, seven in United States, which, with my own case, makes eight in this country, four in France, two in India, and one each in Austria and Africa. It is remarkable that so few cases are reported from India, Africa, and other tropical regions, in which abscess of the liver is so common in adults. All writers whose articles are based on experience in these countries, remark this fact. Rouis, in Algiers, in 252 cases, saw only one in a child. Cheevers, in his "*Commentary on the Diseases of India,*" states that he has never seen a case, and could find accounts of only three. Waring, in 227 cases, notes the occurrence of no case under sixteen years of age. Other writers record no cases.

The average age of occurrence was a little less than nine years. The youngest was an infant of one year; the oldest fifteen years old. Of the cases in which sex is given, thirty-six in number, twenty were boys and sixteen girls.

Causation.—Injury is the assigned cause in nine cases. In the majority of these it is by no means proven that the abscess was attributable to the injury. In some it may have an indirect cause, as in Monnier's case. In this, the first symptoms immediately followed the lifting a heavy stone, and clinical history and autopsy indicate that the effort caused the rupture of a vein of the appendix, from which point a thrombus extended into the mesenteric vein. From this, the author believes that thrombi were carried into the liver, and became centers of inflammation, as multiple abscesses were found. The next most frequently as-

*Abscess of the Liver, Keating's *Cyclopædia of the Diseases of Children.*
†Bull. Soc. Anat. de Paris, Vol. LXVII.
‡*Indian Med. Gaz.*, 1890, Vol. 25.

signed case is round worms, which have migrated from the intestine into the bile ducts, and there set up an inflammation. In five cases, the ascarides seem to have been the undoubted cause, as they were found, after death, in the abscess cavity or in the liver tissue. In the remaining cases the abscess was secondary to a pylephlebitis in four cases, to an umbilical phlebitis in one, to pyæmia in two, to dysentery in three, to pelvic peritonitis, perityphlitis, malarial fever and tuberculosis of the lungs in one each.

Medical literature does not contain, so far as I have been able to ascertain, the record of a single case of abscess of the liver, in a child, which has been demonstrated to have been of amœbic origin. Several of the cases analyzed in this paper were possibly of amœbic origin; three were almost certainly of such origin. These were the Indian and African cases.

With a few preliminary remarks on amœbic abscess, I will pass on to the history of my own case.

Amœbic abscess of the liver is one in which the destruction of the liver tissue, and the formation of the abscess is due to the amœbæ coli—a low form of animal parasite. This parasite finds its way into the human body by way, most probably, of drinking water, and makes its *habitat* in the colon, giving rise, by its destructive action upon the mucous membrane of the large intestine, to a form of dysentery known as amœbic, in contra-distinction to the ordinary catarrhal dysentery. From the colon, the amœbæ may, and often do, migrate into the liver or lung, or both, and set up an abscess.

The relationship of the amœba coli to amœbic dysentery and abscess of the liver is now so well established that it is useless to enter into any detail here. The whole subject is fully discussed in the able monograph of Councilman and Lafleur.* The history of my case is as follows:

B. R., aged seven years, born in Richmond, Va., of robust, healthy parents, a frail, delicate-looking colored boy, had, while in Richmond, during the latter part of Septem-

**Johns Hopkins Hospital Reports,* Vol. II.

ber, 1894, a slight attack of dysentery, which apparently yielded to treatment. Upon his return to the Seminary, where his mother was employed, he complained, during the last week in September, of diarrhœa and loss of appetite. I saw him, and prescribed a dose of calomel, followed by castor oil and a tonic. I then learned that he had had the attack in Richmond, which was attended with bloody stools. His stools at this time were entirely free of blood. He apparently recovered in a few days; and, although incidently seen playing about by me every day, there was no complaint made, and I did not see him professionally until the 6th of January, 1895, on which occasion I found him covered with a cutaneous eruption, which had been preceded by headache and fever, and presented the general appearance of an attack of varicella, though he was said to have had chicken-pox. This attack passed off in two or three days. This eruption may have simply been a coincidence, but I am inclined to believe that it was a primary manifestation of the approaching trouble. After this, he seemed in his usual health, until the 18th of January, when he began to complain of abdominal pain.

I saw him again on the 19th, and found him with fever, heavily coated tongue, and ill-defined abdominal pain, but without any marked tenderness on pressure. From this on for the next ten days, there was a steady increase in the severity of his symptoms. His temperature, when seen by me, morning and evening, was always high—from 103° to 104°F. The pain increasing in severity, was soon referred to the hepatic region, and there was marked tenderness on pressure over the liver and right iliac fossa. So severe was the pain, that the child slept neither day nor night, except when under the influence of opiates, and, as a rule, colored children are little susceptible to pain. The bowels moved from three to five times in the twenty-four hours, the stools being large, well formed, and mixed and coated with mucus, but otherwise natural in appearance. The kidneys acted very freely, the twenty-four hours' quantity of urine exceeding the normal. Examination showed nothing abnormal, except marked increase in quantity of urates. He constantly lay on his back, and his expression was indicative of great suffering. The breathing was quick and short, and towards the last, there was a short, hacking cough. No marked signs were observed at any time. The skin was constantly hot and dry. There was not the slightest appearance of jaundice. Pulse was quick, weak and small.

The appetite was completely lost, and, while no nausea was complained of, vomiting occurred always if more than a few drachms of nourishment were given at a time. Emaciation and loss of strength were very rapid.

The right lobe of the liver rapidly increased in size, so that, by the 28th, there was perceptible bulging of the ribs, and the lower border could be easily palpated beneath the ribs.

On the 29th, fluctuation was apparent, and was most distinctly felt in the lumbar region. During the afternoon of that day, in the presence and with the assistance of Drs. Purvis and Howard, of Alexandria, I aspirated the abscess. The largest needle of a Potain aspirator was inserted in front, betwen the eighth and ninth ribs, and pushed backward, upward and inward to its full length, without striking the abscess cavity. It was then withdrawn from the liver, and carried more directly backward, when it was immediately felt to enter the cavity. With difficulty, about six ounces of thick, viscid, chocolate-colored matter was withdrawn. Microscopic examination of this matter showed many red blood-cells, some pus corpuscles, and amœbæ coli.

A slight improvement followed the aspiration, but only for a day or two The temperature was a little lower; the pulse stronger; the pain less intense; and the stomach less irritable.

On the 2nd of February, there being no further improvement, and the size of liver not diminished, I opened the abscess. Assisted by Dr. Howard, Dr. Purvis administering the anæsthetic (chloroform), a free incision was made parallel with the cartilages of the ninth and tenth ribs. The liver was firmly adherent to the abdominal wall, and the knife immediately entered the abscess. A quart or more of a greenish gray-colored matter, containing quite large masses of necrotic liver tissue, was discharged, and the cavity irrigated with a one-half per cent. solution of formalin. A large drainage tube was inserted, and the dressings applied. The patient reacted fairly well, and the following day seemed much relieved. The abscess discharged freely, the discharge containing a considerable quantity of bile. It was daily washed out, and much bile-stained liquid together with masses of narcotic tissue, brought away.

With the exception, however, that his temperature fell two or three degrees, and that he rested more comfortably, the patient did not improve. Two or three days before his death, the right parotid gland became tender and swollen,

and an abscess threatened, but, up to the time of his death, no pus could be detected. Growing steadily weaker, he died on the night of the 7th of February, the first of the memorable and terrible blizzard of February, 1895.

This case is an excellent illustration of the fact that "abscess of the liver may occur as a complicatiou of amœbic dysentery of any degree of severity, and at any period of its course."* Here was a case so mild in form, so wanting in the general features of severity, that it ran along unobserved for over three months, and finally resulted fatally.

Several lessons are to be learned from this case. We must recognize that amœbic dysentery occurs in our climate, and that we should be on the lookout for it, and should familiarize ourselves with its distinctive symptoms, in order that it may early receive appropriate treatment for its cure, and the obviation of such serious complications as hepatic and pulmonary abscess. We must also bear in mind that it may occur in children, and in them, too, may be complicated with abscesses. We have, fortunately, one unfailing source for recognizing the amœbic form of dysentery—according to the authorities on the subject:—The amœbæ are to be found in the mucus of the stools at all periods of the disease, and in all grades of severity. I feel no doubt that my patient, during those three months, presented symptoms of the mild form of the disease—he probably had constipation alternating with attacks of slight diarrhœa.

Owing to the severity of the weather, I was unable to make an autopsy until the afternoon of the 10th—some sixty hours after death, and then only a superficial one.

The body, well preserved, being stiffly frozen, was excessively emaciated. The liver was found to be enormously enlarged and deeply congested. The right lobe was the seat of an enormous abscess cavity, the lobe being practically gone. The left lobe, with the exception of a small portion of its left extremity, which was healthy, was studded with small areas of necrotic tissue. The tissue intervening

*Councilman and Lafleur.

between these areas showed, microscopically, that the liver cells were in various stages of degeneration, and the intercellular tissues infiltrated with red blood corpuscles. The gall-bladder was healthy in appearance, and contained a small lump of ice. The walls of the abscess cavity were composed of ragged necrotic liver tissue. Microscopic examination of the abscess wall showed amœbæ in abundance, as well as the characteristic degenerative changes described by Councilman and Lafleur.

The colon and ileum, in the immediate vicinity of the liver, were congested and thickened, as was the appendix, and, under the microscope, showed considerable infiltration of the submucose.

The base of the right lung, in the immediate vicinity of the abscess, was healthy. There were no indications of peritonitis, or other abnormal condition.

I regret I could not carefully examine the colon for evidences of chronic dysentery, which must have been present. I also regret that tissue from the swollen parotid gland was not removed for examination for the presence of amœbæ, as it is stated by Councilman and Lafleur that metastases to distant organs do not occur. I believe that they would have been found.

The general *symptomatology* of hepatic abscess is as follows:* Pain or tenderness over the region of the liver may be regarded as a constant symptom, though, in some cases, the pain was referred to as abdominal, and in two it extended to, or was noticed in, the right shoulder.

Enlargement of the liver is mentioned in fourteen cases. In my case it was very marked. In all instances it was downward and sensitive to pressure.

The presence of a distinct tumor is mentioned in nine instances, and swelling in the right hypochondriac region, or belly, in twelve. Nearly all the cases of traumatic or pyæmic origin were attended with the presence of a tumor; and in some of the pyæmic cases, two or three tumors were apparent.

Fever is mentioned in a majority of the cases (twenty-three), and must have been present in all. It was generally

*This summary is largely taken from Musser's article.

of an intermittent type, and accompanied by rigors. Sweats occurred in some cases, and were usually accompanied by chills and febrile paroxysms, and were profuse and exhausting.

Vomiting was a frequent symptom, but occurred at no particular stage, and was not present in the case of pyæmic or pylephlebitic origin.

Diarrhœa was a frequent symptom, but it, too, was not noticed in the pyæmic cases. An enteritis or entero-colitis was present in some cases, as the passages were mucous, muco-pulurent or bloody.

Constipation was an accompaniment of some cases. Coated tongue and loss of appetite were generally present. Ascarides were found in the vomit and stools in several of the cases in which they are the assigned cause. Jaundice seems to have been of rare occurrence; it is only mentioned in seven instances. Pleurisy is mentioned as occurring in six cases, pneumonia in one, and pneumothorax in another. In all cases with most marked pulmonary symptoms, the abscess was caused by round worms. Short, hacking cough and short, irregular breathing were generally observed. These are due to pain and the difficulty of the respiratory act. This symptom was particularly well marked in my case. No peculiar decubitus or facial expression seems to have been observed. In my case the decubitus was constantly dorsal, the patient declining to lie on either side, and the expression was pinched, haggard, and indicative of great suffering. Convulsions, delirium and stupor were noted in some cases. The bursting of the abscess into the abdomen or pleura is of rare occurrence in children, as it seems to have occurred in only two of the thirty-seven cases. Peritonitis is noted as an occasional attendant symptom. Swelling of the right parotid was observed in one case of amœbic abscess.

The duration of the affection was variable, being from one week to eleven months. In all cases in which recovery took place, all symptoms disappeared within two months.

As regards issue, thirteen of the thirty-seven cases recov-

ered, and twenty-four died—a mortality of over 64 per cent. From this it will be seen that the *prognosis* is not favorable. It is dependent on several circumstances—causation, number of abscesses present, and operative interference. Of the thirteen cases which recovered, the trouble was assigned to injury in two, to ascarides in one, to dysentery in one, to pyæmia in one—the liver abscess being secondary to an abscess on the hip, following a bruise; to malaria and pelvic peritonitis in one each, while in one other the cause was either injury or round worms. No cause is assigned in the remaining cases. One was preceded by malaria, the other by diarrhœa; both were probably tropical abscesses.

Of much more importance, from a prognostic point of view, is whether the abscess is single or multiple, for in every case which recovered the abscess was single, or, as in one case, there were only two. With one single exception, in every case which recovered the abscess was either aspirated or incised. Of sixteen cases operated upon, twelve recovered; while, of the remainder, in which no operation was performed, only one recovered, and in this case the abscess burst itself finally. No comment is necessary; these facts speak for themselves.

As regards *diagnosis*, it is generally easy to be made by a careful study of the case. The existence or pre-existence of a known cause and presence of all or some of the principal symptoms, especially the physical signs, should arouse suspicion. If an abscess is suspected, the aspirator needle will generally settle the question and locate the abscess. When there is reason to suspect hepatic abscess, care must be had to differentiate it from certain other affections, notably, hydatid cysts of the liver, cancer of the liver—which, too, may give rise to a fluctuating tumor—abscess between the liver and diaphragm, and abscess of other contiguous organs.

Aspiration will settle the question between an abscess and hydatid cyst, if doubt should arise. Abscess and cancer both cause enlargement of the liver; in both fluctuating tumors may arise, and both are of short duration. In can-

cer, however, the liver is generally larger and more nodular, the abdomen more increased in size, abdominal veins more distinct, and there is cachexia.

Between hepatic abscess and abscess of contiguous organs the diagnosis may be difficult, and must largely depend on careful physical examination and clinical history. Subdiaphragmatic abscess it is well nigh impossible to diagnose from hepatic abscess. Fagge holds that history of direct injury is strongly indicative of abscess between the liver and diaphragm.

The *treatment of hepatic abscess* is symptomatic and operative. In the formative stage of the abscess, the treatment is purely supporting and symptomatic. Severe pain should be controlled by opiates, and the form which I prefer is codeia in sufficient doses. In cases of multiple abscess, it is useless to operate; and if it can be determined that multiple abscesses exist in a given case, the patient must not be subjected to an operation, though aspiration or puncture may prolong life and relieve suffering. Abscesses due to pyæmia and pylephlebitis are apt to be multiple. If operation be decided upon, either puncture with a large trocar, aspiration or incision may be practiced. For myself, I prefer free incision and drainage. Aspiration I believe to be chiefly useful as a diagnostic measure.

Cancer and Erysiplous Toxine.

The Vienna correspondent of *Medical Press*, September 25th, says: Many cases of malignant sarcoma have become benign after an attack of erysipelas. Emmerich and Scholl have inoculated with serum from affected animals. Czerney, after several experiments, concludes that the sterilized, *but not filtered*, mixed culture from erysipelas and prodigiosus produce rigors and general disturbance after a few hours. These injections have unquestionably reduced the size of these sarcomatous growths; in several cases, have entirely cured them. Operative means should be the first duty where practicable; but inoculation should not be omitted in inoperable cases.

Art. IX.—The Veterinarian as a Sanitarian in Relation to Public Health.

By E. P. NILES, D. V. M., Blacksburg, Va.,

Professor of Veterinary Science in the Virginia Agricultural and Mechanical College, etc.

Such rapid strides have been made in the various branches of medicine within the last few years, that when we look back it is with a feeling of horror and wonder that any are still living to observe the strides that have been made, especially in bacteriology and pathology. As our knowledge of bacteriology advances, the etiology or true cause of disease is made more plain. Bacteriology is yet, however, only in its infancy, but we know enough of it to demonstrate to the world that an infectious disease is due to specific bacteria. It has been but a short time since the germs of many of our most common diseases have been isolated and studied. There still remains a large number to be discovered; but at the rate of the present advancement of science in this direction, the true etiology of most, if not all, of the infectious diseases must come to light in the near future, since new apparatuses, new methods of investigation and better qualified men are constantly being brought into the field of science.

Bacteriology has not only pointed out the specific cause of disease, but has brought forth new and more successful methods of treatment—*e. g.*, the antitoxine treatment for diphtheria and tetanus. And no doubt a similar line of treatment will prove equally as effectual in the near future in many of our other most dreaded diseases. The theory of immunity is also much better understood since science has revealed to us the world of bacteria, for it is by them or their products that immunity is produced. Bacteriology has also revealed to us the fact that many of the infectious diseases of the human family are spread broadcast by the lower animals, and that many of the diseases of the lower animals are capable of being, and are, communicated to man.

The advance made in animal pathology has also done much to corroborate the above. More attention is now being given these two branches of medicine in the veterinary colleges than in the past.

Veterinary colleges are making a special effort to thoroughly train their students in all of the branches of veterinary science, and especially in bacteriology and pathology, thus qualifying them as public sanitarians. A thorough training in veterinary science is necessary in order that disease in lower animals communicable to man, and which menace the public health, may be recognized in their early stages, and at once stamped out. In view of this fact, every State Board of Health should have as one of its members a qualified veterinarian, for upon that profession rests a large portion of the work of protecting the public health. At the present time, no medical college gives the slightest attention to diseases of lower animals, not even comparative anatomy; or if so, not to a sufficient extent to enable the physician to diagnose many of the infectious diseases except in the human family. Many of the States have recognized this fact, and have given veterinarians recognition on their Boards of Health. In many instances, the pathology of disease differs in the lower animals and man, as also does the semeiology, thus making it difficult, if not impossible, for the medical profession to act as perfect sanitarians without the assistance of the veterinary profession. At the present time, Virginia has no laws of any consequence for the control and eradication of the infectious diseases of the lower animals. Nor has it a properly organized and equipped State Board of Health. In view of this fact, the veterinary and medical profession of the State should join each other in an effort to establish such laws, and urge upon the Legislature the importance of a properly-organized Board of Health. The importance of such is more forcibly placed before us when we stop to consider that such diseases of man as diphtheria, scarlet fever, tuberculosis, and typhoid fever, are spread, in many instances, broadcast by the lower animals. Such diseases of the lower animals as canine dis-

temper, glanders, anthrax, and foot and mouth disease, are communicable to man, while other diseases are common to both, especially parasitic diseases. The truth of the above statement is fully supported by the following facts in relation to the specific organism productive of the disease.

Diphtheria not only affects man but affects many of our domestic animals, by which it may be carried from one family to another. When the bacillus of diphtheria is inoculated into the trachea of cat, rabbits, and guinea pigs, it produces well-marked symptoms of diphtheria and death in a few days. The disease is not confined to the smaller animals, but extends to horses, and from them may be communicated to their attendants. The germ of diphtheria may also be carried from place to place in milk which has been cared for by parties who have the disease in their family.

While the specific agent in scarlet fever has not been demonstrated, numerous streptococci have been observed; and it remains to be demonstrated whether or not any of these are the specific cause of the disease. At any rate, we know the disease to be highly infectious, both in man and the lower animals; and there can scarcely be a reasonable doubt but that the germ is the same in both; hence, capable of being communicated from one to the other. These germs may also find their way into the products of dairy herds and be sown broadcast. A number of outbreaks of scarlet fever in cities have been supposed to have originated in this manner. It has also been argued that the germ of mammitis in cows and that of scarlet fever are identical, and that some outbreaks of the latter were the result of the use of the milk from such animals.

Recent experiments have fully demonstrated the dangers in the use of milk from tuberculous cows. It has been asserted that fifty per cent. of the cases of tuberculosis in man are the result of the use of tuberculous milk and meat. Bovine tuberculosis endangers the public health more than all other diseases combined, due to the fact that it cannot be detected in its early stages without the use of

tuberculin, and in using this, the veterinarian must be employed, as he alone is the only one whom has had the proper training to give accuracy to the test.

Typhoid fever in man has been repeatedly traced to the milk supply. In milk the bacilli of typhoid fever find all the conditions necessary for their growth, and the result is that almost innumberable numbers are developed in a very short time. In most cases the germ finds its way to the milk after it is drawn from the udder, but in some instances it may have reached the mammary gland and contaminated the milk in that organ. Typhoid fever as seen in man has not as yet been observed in animals, yet the lower animals do suffer with diseases somewhat similar, and which are caused by germs morphologically the same. The fact that the germ of typhoid fever in man when injected in rabbits, guinea pigs, and mice, have caused death, though the symptoms were not analagous to those in man, justifies us in the supposition that typhoid fever may, under certain conditions, be intercommunicable. The fact that city dairy herds should undergo rigid veterinary inspection is very forcibly emphasized by the result of Dr. Rowland's bacteriological examination of the milk supply of London. In twenty-five samples of milk examined, the average number of bacilli found per cubic centimeter was five thousand, equal to a little less than two million per dram. Kohn has shown that germs may multiply at the rate of doubling every hour. Milk standing only one day at the above rate of multiplication would contain to each cubic centimeter 83,886,080,000 bacteria; and if the milk was allowed to stand forty-eight hours, the number would be more than twice as many.

The principal sources of infection are to be found in the careless transportation of the milk from the dairy to the consumer, unclean dairy utensils, filthy and poorly ventilated cow stables, dirty hands of the milker, and cows bedaubed with fæces. Of the germ found by Dr. Rowland, the bacillus coli communis was most abundant. It may be argued that since this germ is a normal habitant of the

colon of man and animals, it can do no harm. So it would not in normal quantities, but in such abnormal quantities it is frequently the source of blood poison, abscess, pleurisy, pneumonia, peritonitis, appendicitis, and even attacks similar to typhoid fever. So closely do these attacks resemble typhoid fever, that some bacteriologists have been led to believe that the bacillus coli communis and the bacillus of typhoid fever are one and the same, and that certain conditions are only necessary for the former to produce the disease. Should this be true, it is all the more important that all the dairy herds and their surroundings should be carefully inspected, and that the milk from the same should undergo rigid inspection before it is delivered to the consumer. Such inspection would also avoid many cases of cholera infantum, which is attributed to the bacillus coli communis by Lesage. In fact, if we are to place any importance upon the results of investigation by various scientists the mischief caused by this germ in abnormal quantities is by no means small, and its presence in milk, especially that used for infants, cannot but be a grave source of danger.

Canine distemper, until recently, has been considered purely a disease of the dog. A recent article by Brono Galli-Valerio, translated in the *Veterinary Magazine*, is, however, proof to the contrary. In this article is cited a case of tenonitis in man. The disease immediately affected a schoolmate, a sister and the mother. A lady who was stopping with the family was also affected, and communicated the disease to her father and a small puppy. Some time after, a man sleeping in the bed of the first case contracted the disease. The symptoms were: Swollen eyelids, serous infiltration around the cornea, slight protusion of the eye, fever and general depression. These symptoms were preceded by chills, headache, and pain in the eyeball. It is also stated that some of the cases were complicated with diffused bronchitis and pneumonia. Upon investigation, it was ascertained that a pet dog had previously suffered an attack of canine distemper, from which cultures of bacteria

were identical with those obtained from the sick people. The conclusion is drawn that tenonitis of man may at times only be a symptom of dog distemper in the human species.

In connection with canine distemper it is worthy of note that Galli-Valerio claims to have discovered the germ of the disease. He describes it as an ovoid bacillus, which is isolated or placed side by side, varying in length from 1.25 to 2.5 and .31 micro milimeters in width. He claims to have found the bacilli in the central nervous system, in the exudate from the meninges, and in the exudate from bronchopneumonic complications. He has made cultures from the blood, lungs, brain, spinal cord, and the exudate from the meninges. All produced the same characteristic bacilli except the blood, from which no growth was gotten. Young dogs inoculated with this germ developed well-marked symptoms of canine distemper, which was confirmed by post mortem.

The presence of the germ in the brain and spinal cord accounts for the nervous symptoms so common in this disease. It is also this form of the disease that gives rise to so many "mad dog" scares. In view of the preceding, it would seem probable that the deaths in the human family attributed to the bite of so-called "mad dogs" are due to the germ of canine distemper, and possibly fear. At any rate, the subject is worthy of investigation. Many cases are on record in which glanders and anthrax have been communicated to man by inoculation from the lower animals. The specific germ in each has been isolated, and is too well known to call for any discussion at this time. Suffice to say that glanders in the horse is not at all times easily diagnosed, except by use of mallein, which requires the services of a veterinarian.

Eczema contagiosa, or foot and mouth disease, of cattle almost constantly exists in some of the European countries, and although our Government guards well against its importation into this country, it behooves us to constantly be on our guard, since the disease is easily communicated to man through the milk.

Many parasitical diseases of the human family are the result of the use of meat infected with parasites. It is a well-established fact that the larvæ of tape worms frequently become encysted in the muscles and various organs of the lower animals—especially sheep and swine—and only require to be taken into the stomach of a human individual to develop into a monstrous worm in the intestine of the unfortunate party. In holding a post mortem on a sheep only a few days ago, the writer removed from the intestines three tænia expansa, measuring about seven feet in length, In another instance, seven tænia were removed from one animal.

"Measley pork" is by no means a rarity. Trichinosis of pork is also far too common, and proves a source of great danger to those who do not sufficiently cook the meat to destroy the trichina. A family of eight, residing in Indiana, were recently reported to have died from the use of such meat. Such reports are not rare, but on the contrary, quite frequent.

Actinomycosis is common in cattle, and from their flesh may extend to man. In the majority of the slaughter pens in this country the flesh of such animals is not discarded for food; but the diseased parts are removed, and the balance of the carcass placed in the meat markets as first-class beef. In western cattle, it is not uncommon to see one or more such diseased animals among shipping stock.

For lack of proper sanitary precautions, we are constantly consuming tuberculous meat and milk; milk infested with various disease-producing germs; trichina in pork; encysted larvæ of tape worms in mutton and pork; actinomycotic beef, and other meats, while not infected with infectious diseases, unfit for food as a result of other disease.

Proceedings of Societies, Boards, etc.

MEDICAL EXAMINING BOARD OF VIRGINIA.

The Fall Session, 1895, of the Medical Examining Board of Virginia was held in Wytheville, Va., September 2–4, 1895. The Board met for the transaction of routine business, such as revising questions, etc., Monday night, at eight o'clock, in Public School Building. In the temporary absence of the President (Dr. Rawley W. Martin, of Lynchburg), and Secretary (Dr. Benj. Harrison, of Richmond), Vice-President, Dr. Herbert M. Nash, of Norfolk, called the Board to order. Dr. R. S. Martin, of Stuart, by request, acted as Secretary. After arranging for the examinations, the meeting adjourned.

Examinations held September 3rd and 4th, 1895.

I.—SECTION ON CHEMISTRY.

(Tuesday, 9 A. M. to 12 M.)

Dr. R. M. Slaughter, Theological Seminary, Va., Chairman.

Ques. 1. Name and define the two classes of molecules. Name and define the two classes of compound molecules. State the class to which acids, bases and salts belong. Define a base, and state its action on litmus. Name the element having chief linking function.

Ques. 2. Give symbol, atomic and molecular weight, quantivalency, and principal ore of mercury. Give the points of difference (chemical and physical) between calomel and corrosive sublimate; explain best general test for mercurial salts. Give best temporary antidote in cases of poisoning by mercurial salts Write out diagram showing the reaction that occurs when corrosive sublimate and potassium iodide are combined in solution.

Ques. 3. Give differential test for salts of arsenic, antimony, and copper in aqueous solutions. Give chemical antidotes for tartar emetic, nitrate of silver, and tincture of iodine. Criticise from point of view of chemical compatibility the following prescription:

℞.—Salicini.. .... 8 | ʒij
Acid. sulphuric. aromat.. 16 | ʒiv
Aquæ..... . .....q. s. ad 90 | ℥iij
M.—Dissolve with the aid of heat
S.—Teaspoonful in water t. i. d.

Ques. 4. What is an ether? Give chemical constitution of an ether, and state the difference between an ether and an alcohol. State how so-called sulphuric ether is made.

Ques. 5. Give chemical nature and physical properties of glycerin. What results when glycerin is acted on by nitric acid? Mention preparation, and its strength, of the resulting compound used in medicine.

Ques. 6. State the average quantity of urine excreted by the adult male in twenty-four hours. What disease would you suspect in the case of an adult male who was passing, in twenty-four hours, 1050 c.c. (*f*℥ 35) of urine, having a specific gravity of 1018? What tests would you apply? Give test for chlorides in urine, and mention the diseases in which their quantity is markedly diminished.

II.—Section on Anatomy.

(12 M. to 3 P. M.)

Dr. Benj. Harrison, Richmond, Va., Chairman.

Ques. 1. Name the nine regions into which the abdomen is artificially divided, and give contents of each.

Ques. 2. Give origin, insertion, action and nerve supply of the omo-hyoid, psoas magnus, and gracilis muscles.

Ques. 3. Describe the nose, giving its muscles, arteries, and nerves.

Ques. 4. Describe the uterus, stating its size, shape, parts and relations.

Ques. 5. Name and describe the sinuses of the dura mater.

Ques. 6. Describe the cervical plexus, name its branches, and give the distribution of the deep branches.

III.—Section on (I.) Hygiene and (II.) Medical Jurisprudence.

(4 P. M. to 7 P. M.)

Dr. J. E. Chancellor, University Station, Charlottesville, Va., Chairman.

I.—Hygiene.

Ques. 1. Describe in detail what should be the hygienic condition of a dwelling in regard to location, construction, water supply, drainage, and surroundings.

Ques. 2. State the requirements and sanitary measures necessary for lying-in apartments. Also for the patient, physician, and attendants, or nurse.

Ques. 3. State the source and causes giving rise to phthisis pulmonalis, the means necessary to prevent and overcome the disease.

Ques. 4. To what sources would you look for origin of typhoid and typhus fevers, small-pox and diphtheria. How prevent their spread, and how stamp them out.

II.—Medical Jurisprudence.

Ques. 1. Define abortion medically and legally. Give proof of destruction of fœtus afforded by condition of mother, age of fœtus, and criminal means employed.

Ques. 2. Give the legal definition of *rape*, its proof and penalty, medical sources of evidence and the law regarding consent, penetration and emission.

IV.—Section on Physiology.

(8 P. M. to 11 P. M.)

Dr. R. S. Martin, Stuart, Va., Chairman.

Ques. 1. (a) What is a cell?
(b) Give classification of glandular organs.
(c) Name the ductless glands.
(d) What is a function?

Ques. 2. (a) What is the cause of coagulation of blood?
(b) Mention some conditions which hasten coagulation and some which retard it.
(c) Give difference in composition and function between blood and lymph.

Ques. 3. (a) Give capacity of stomach.
(b) Time required for stomach digestion.
(c) Conditions which favor digestion.
(d) What position of body is best for sleep? and why?
(e) Give difference in composition between inspired and expired air.
(f) Give normal temperature.

Ques. 4. (a) Give a distinction between anterior and posterior roots of a spinal nerve:
(b) What is the essential function of the posterior and lateral columns of the cord?
(c) What part of the retina possesses the most acute vision?
(d) What is the cause of color blindness?

Ques. 5. (a) Locate centres of respiration and speech.
(b) Give functions of cerebellum and cerebrum.
(c) Give origin and function of facial or seventh nerve.

Ques, 6. Give bacteriological diagnosis of diphtheria.

V.—Section on Materia Medica and Therapeutics.

(Wednesday, 9 A. M. to 12 M.)

Dr. A. S. Priddy, Keysville, Va., Chairman.

Ques. 1. (a) How may the action of drugs be modified?
(b) Give the general causes which cause such modifications.
(c) Give a general rule by which doses may be determined for all ages.

Ques. 2. Name four principal and commonly used coal-tar preparations; their doses, contra-indications, their actions on the nervous respiratory and circulatory systems.

Ques. 3. With what drugs are the following generally incompatible: Gallic and tannic acids, bichloride of mercury and calomel, the bromides and iodides, nitrate of silver?

Ques. 4. What conditions would determine your choice between chloroform and ether as an anæsthetic?

Ques. 5. (a) What is the best and most convenient direct antipyretic and in what ways may it be applied?
(b) What are the most important therapeutic uses of hot water in medicine and surgery?

Ques. 6. Name three acids which produce acidity of the urine most satisfactorily, and in what form each is eliminated by the kidneys.

Ques. 7. Give official name for Basham's mixture, Donovan's solution, Rochelle salts, Tartar emetic, Huxham's tincture of bark, Cream of tartar, Dover's powder.

Ques. 8. Write a prescription for each of the following, properly dosed, so that it can be dispensed and administered in nice form: (a) Strychnia, tincture chloride of iron, and Fowler's solution combined; (b) Spirits turpentine; (c) Acetate of potash and digitalis; (d) Quinine and morphine, combined.

Ques. 9. Give dose of phosphate of soda, and in what conditions it is especially useful.

Ques. 10. How do mercurous and mercuric preparations differ from each other in their actions on the alimentary tract?

VI.—Section on Obstetrics and Gynæcology.

(12 M. to 3 P. M.)

Dr. Herbert M. Nash, Norfolk, Va., Chairman,
Dr. H. M. Patterson, Staunton, Va.

Ques. 1. Describe the various methods of resuscitating the still-born infant.

Ques. 2. What are the indications for the induction of labor prematurely, and describe methods?

Ques. 3. Define version; name its varieties and methods of performing; give its difficulties and complications; when indicated and contra-indicated.

Ques. 4. Give the causes, symptoms and dangers of delayed labor.

Ques. 5. Give the causes, mechanism and treatment of face presentations.

Ques. 6. What structures are injured in complete rupture of the perineum during parturition, and describe an efficient secondary operation for the repair of this lesion?

VII.—Section on Practice of Medicine.

(4 P. M. to 7 P. M.)

Dr. Rawley W. Martin, Lynchburg, Va., Chairman.
Dr. L. S. Foster, Mathews C. H., Va.

Ques. 1. On what does arterial tension depend? Give the evidences of high arterial tension, and explain how produced.

Ques. 2. Define lobular pneumonia. Give the morbid anatomy and physical signs.

Ques. 3. Give the physical signs of aortic stenosis, and explain how they are produced.

Ques. 4. Define small-pox. Give its morbid anatomy and symptoms.

Ques. 5. Describe the symptoms of acute pleurisy, including physical signs. Give differential diagnosis.

Ques. 6. Give pathological anatomy and symptoms (including physical signs) of acute endocarditis.

Ques. 7. Mention the principal varieties of renal calculi and give symptoms.

Ques. 8. Differentiate apoplexy from alcoholic narcosis.

VIII.—Section on Surgery.

(8 P. M. to 11 P. M.)

Dr. John W. Dillard, Lynchburg, Va.. Chairman.
Dr. S. W. Budd, Petersburg, Va.

Ques. 1. Define syphilis; give its symptomatology (including the secondary syphilides), and a brief outline of the treatment; also differentiate chancre from chancroid.

Ques. 2. Give the symptoms and treatment of dislocation of the head of the femur upon the dorsum ilii.

Ques. 3. Name the various operations for stone in the bladder, and the conditions indicating a choice of each.

Ques. 4. Describe amputation (modified circular) of the middle third of the thigh, and name the structures (vessels, muscles and nerves) cut.

Ques. 5. Differentiate non-malignant from malignant tumors of the breast.

Ques. 6. Give the symptoms, diagnosis and treatment of irritable ulcer of the rectum.

Alphabetically Arranged List of the Applicants to Whom Licenses were Granted to Practice Medicine in Virginia, After Due Examination September 3rd and 4th, 1895, with their Postoffices and Colleges of Graduation.

Ashbourne, J. E., Bower's Hill, Leonard Med. Col.
Barksdale, C. D., Brooklyn, Va., Univ. of Va.
Collins, C. C., Lynchburg, Univ. of Va.
Capps, C. P., Meherrin, Univ. Col. of Med., Richmond.
Crockett, M. B., Burk's Garden, Univ. Col. of Med., Richmond.
Delany, J. A., Bristol, Hosp. Med. Col., Louisville.
Darnall, W. E., Hampton, Univ. of Va.
Ferebaugh, T. C., Harrisonburg, Univ. of Va.
Grice, Joseph, Portsmouth, Univ. of Va.
Holladay, G. G., Portsmouth, Bellevue Hosp. Med. Col., N. Y.
Howe, H. D, Hampton, Univ. of Va.
Hyde, Ina B., Totaro, Woman's Med. Col., Cincinnati.
Jones, C. N., Appomattox, Col. Phys. & Surg., Baltimore.
Lavinder, C. A., Lynchburg, Univ. of Va.
McNeer, R. L., Pocahontas, Tulane Univ., New Orleans.
Moye, E. A., Jr., Greensville, N. C., Jeff Med. Col., Philadelphia.
Nelson, A. J., Gaines' Mill, Columbia Univ., Washington.
Old, Herbert, Norfolk, Univ. of Va.
Osborne, J. D., Petersburg, Univ. of Va.
Prince, W. D., Cedar View, Univ. of Va.
Spiller, W. H., Wythevile, Univ. of Va.
Sheldon, M. B., Low Moor, N. W. Univ., Chicago.
Skene, Jos. Ira, Bonbrook, Univ. of Md.
Terrell, Thos. K., Lynchburg, Univ. of Va.
Williams, Robt. F., Richmond, Univ. of Va.
Wingard, J. J., Marion, Univ. of Va.

Institutions Represented by the Applicants before the Medical Examining Board of Virginia, from the organization of the board, Jan'y 1st, 1885, to October, 1895.	Total Number from each Institution.	Total Number Licensed First Exam.	Total Number Rejected First Exam.	Licensed on Second Examination.	Rejected Second Examination.	Licensed Third Examination.	Rejected Third Examination.	Incomplete or Withdrew.
Medical College of Virginia	163	134	23	1	1	1	...	6
University of Virginia—Medical Department	112	111	1	...	....	.....	...	....
University College of Medicine, Richmond	9	8	1	1	....	....	....	...
Balto Med. Col. and Univ. Col. of Med., Richmond	2	2	...	....	....	....	..	....
College of Physicians and Surgeons, Baltimore	110	83	24	....	3	2	....	3
University of Maryland	125	94	30	....	5	....	....	1
Baltimore Medical College	25	7	16	1	6	....	2	2
Baltimore University	7	....	7	....	2	..	.....	....
Washington University, Baltimore, (Extinct.)	1	....	....	....	....	.....	..	1
National Medical College, Washington, D. C.	1	....	1	.....	....	....	....	....
University of Georgetown, D. C., Medical Department	2	1	1	...	....	.....	....	....
Howard Univ., Med Dept., Washington, D. C.	21	5	16	....	..	1	.....	....
University of Maryland and Baltimore Medical Coll.	1	.....	1	....	.....	....	....	....
Georgetown College, Washington, D. C.	1	....	1	....	...	.....	....	....
Jefferson Medical College	36	25	10	2	.....	.....	....	1
Jefferson Medical College and University of Virginia	1	1	...	....	....	....	....	....
University of Pennsylvania—Medical Department	9	9	....	....	....	....	....	..
Medico-Chirurgical College of Philadelphia	1	....	1	....	1	.....	1	.....
Medical College of Philadelphia	1	.....	1	....	....	....	.....	....
Woman's Medical College of Pennsylvania	2	2	.....	...	....	....	....	.....
Hahnemann Med. Coll. and Hosp. (Homœop.), Phila.	4	3	1	....	....	.....	....	.....
University of the City of New York—Medical Dept.	25	17	8	...	....	...	....	.....
University of New York	1	.....	1	....	....	....	....	....
University of Virginia and New York	1	1	.....	....	....	.....	....	.....
Bellevue Hospital Medical College, New York	17	16	1	1	....	....	.....	....
University of Va. and Bellevue Hospital Medical Coll.	1	1	....	...	....	.....	....	....
College of Physicians and Surgeons, New York	10	9	1	1	....	....	....	....
Geneva Medical College, New York (extinct)	1	1	...	.....	.....	....	....	....
Coll. Phys and Surg., New York, and Univ. of Va.	1	1	.....	....	....	....	....	....
Long Island College Hospital, Brooklyn	1	....	1	....	....	.....	...	....
Yale Medical School, New Haven	1	1	...	.....	....	....	...	....
University of Vermont, Burlington	4	2	2	....	....	.....	...	....
Miami Medical College, Cincinnati	2	2	....	....	....	....	...	..
Columbus Medical College	3	2	1	1	....	.....	....	....
Homœopathic Hospital College, Cleveland	2	2	....	....	.....	....	...	....
Pulte Medical College, Cincinnati (Homœopathic)	1	1	....	....	....	....	....	....
Louisville Medical College	13	6	7	2	....	.....	....	....
University of Louisville—Medical Department	14	9	5	....	.....	....	....	....
Kentucky School of Medicine, Louisville	7	6	1	..	....	....	....	....
Hospital Medical College, Louisville	8	5	3	1	....	.....	....	.....
Vanderbilt University, Nashville	5	4	1	.....	....	....	....	....
University of Tennessee, Nashville	2	2	....	....	....	....	...	....
University of the South, Sewanee, Tenn.	1	..	1	....	....	....	.....	....
Leonard Medical College, Raleigh (Colored)	17	13	4	1	....	....	....	.....
Medical College of State of South Carolina, Charleston	3	2	1	1	....	....	....	.....
Southern Medical College. Atlanta	3	1	2	....	....	....	....	....
Atlanta Medical College	1	....	1	....	....	....	....	....
Tulane University—Medical Dept—New Orleans	3	3	....	....	.....	....	.....	....
University of Louisiana (probably Tulane University)	1	1	.....	....	....	....	....	....
Medical College of St. Louis (Extinct)	1	1	....	....	....	....	....	....
St. Louis Medical College, Missouri	1	1	....	.....	....	....	....	....
Detroit Medical College, Michigan	2	1	1	1	....	..	....	....
University of Michigan—Medical Dept., Ann Arbor	4	4	....	....	.....	....	....	....
Michigan College of Medicine and Surgery, Detroit	3	2	1	....	.....	....	....	.....
Chicago Homœopathic Medical College	1	1	....	....	....	.....	....	....
Hannemann Medical College and Hospital, Chicago	1	1	.....	....	....	...	...	....
University of Heidelburg, Germany	1	1	.....	.....	....	.....	.....	....
St. George's Hospital, London	2	1	1	..	....	....	....	....
King College, London	1	....	1	....	....	..	....	....
Tennessee Medical College, Knoxville	2	.....	2	1	....	1	1	....
Chattanooga Medical College	1	....	1	.....	1	....	1	..
Western Reserve Medical College, Cleveland	1	1	....	....	....	..	.....	....
Rush Medical College, Chicago	2	2	....	....	....	....	....	.....
National University of Ohio	1	1	....	...	....	....	....	....
Eclectic School, Cincinnati	2	....	2	....	....	....	....	.....
Cincinnati Medical College	2	1	1	....	...	....	.....	....
Southern Homœopathic Medical College, Baltimore	4	2	2	....	....	....	....	
Woman's Medical College, Chicago	1	1	....	....	....	....	...	....
Columbian College	3	2	1	....	....	....	....	....
Jeff. Med. College, Phila., and Baltimore Med Coll.	1	....	1	....	.....	....	.....	....
Harvard Medical College	1	....	1	....	....	.....	.....	....
Central Tennessee College	1	....	1	....	....	....	....	.....
Woman's Medical College, Cincinnati	1	1	....	.....	....	....	....	....
Northwest University, Chicago	1	1	.....	....	.....	....	.....	....
Colleges unknown	7	4	2	....	....	....	....	1
Non-Graduates	87	27	54	....	....	....	.....	6
Totals	918	649	248	15	19	5	5	21

Nos. of examination papers.	List of Institutions Whose Graduates were Rejected by the Med. Exam. Board of Va., at its Regular Fall Meeting, September 3-4 1895, With Percentage Marks received in each Section. College of Graduation.	Chemistry.	Anatomy.	Physiology.	Hygiene and Med. Jurisprudence.	Materia Medica and Therapeutics.	Obsterics	Practice.	Surgery.	Total	Average percentage	Remarks.
2	Columbian Univ ,Wash. D. C.	60	67	76	74	78	86	73	70	584	73	.....
6	College Phys & Surg , Balt..	20	47	90	85	93	69	65	71	540	67	.....
13	Central Tenn. College.....	25	39	60	75	75	65	54	70	463	58	.....
15	Non-Graduate.....	45	50	76	87	88	80	80	87	593	74	.....
17	Non Graduate.....	50	45	78	82	86	87	75	75	578	72	.....
18	Univ. of Vermont, Burlingt'n	40	47	80	81	84	78	60	70	540	67	.....
25		60	50	90	95	70	58	70	83	576	72	.....
28	Baltimore Medical College...	34	57	75	98	84	71	72	70	561	70	.....
29	Baltimore Medical College.....	35	60	75	93	87	78	77	70	575	72	.....
31	Non-Graduate.....	30	5	60	70	75	73	40	45	398	49	.....
32	Jeff Med. College, Phila.....	30	51	75	71	86	75	70	80	538	67	.....

Institutions Represented by the Applicants who came before the MEDICAL EXAMINING BOARD OF VIRGINIA, In Session at Wytheville Va., September 3rd and 4th, 1895.	Total Number Applicants from each College.	Total number Applicants Licensed from each College.	Total Number Applicants Rejected from each College.	Withdrawals.
University of Virginia, Charlottesville.....	14	14	.....	.....
Columbian University, Washington, D. C.....	2	1	1	.....
University College of Medicine, Richmond.....	2	2	.....	.....
College Physicians and Surgeons, Baltimore.....	2	1	1	.....
University of Maryland, Baltimore	1	1	.....	.....
Baltimore Medical College.....	2	.....	2	.....
Hospital Medical College, Louisville.....	1	1	.....	.....
Leonard Medical College, Raleigh, N. C. (colored).....	1	1	.....	.....
University of Vermont, Burlington.....	1	.....	1	.....
Tulane University—Medical Dept—New Orleans.....	1	1	.....	.....
Central Tennessee College.....	1	.....	1	.....
Jefferson Medical College, Philadelphia	2	1	1	.....
Bellevue Hospital Medical College, New York.....	1	1	.....	.....
Northwest University, Chicago.....	1	1	.....	.....
Woman's College, Cincinnati.....	1	1	.....	.....
Non-Graduates.....	4	.....	4	.....
Total.....	37	26	11	.....

Wisconsin Wise in Season.

It is stated that the Wisconsin Legislature has set aside $50,000, to be used, if necessary, to prevent the introduction into Wisconsin of cholera, if any threat of the disease should occur during the two years of interim before the Legislature meets again. "An ounce of prevention," is the commendable principle on which Wisconsin established this contingent fund.

MEDICAL SOCIETY OF VIRGINIA.

The Twenty-sixth Annual Session was held in Wytheville, Va., September 3–5, 1895, inclusive. About 120 or more doctors were in attendance. There were admitted thirty-six new members.

The Local Committee of Arrangements, under the chairmanship of Dr. C. W. Gleaves, was constantly looking after the interests of their guests, and the Banquet on Thursday night, at the Boyd House, was undoubtedly one of the finest affairs ever known in the history of the Society. Each table was presided over by two or more handsome and charming young ladies—some of whom being visitors, whose families annually visit Wytheville as a delightful summer resort.

The mayor, W. L. Stanley, Esq., gave an "Old Virginia" welcome to the town, while the venerable Colonel and ex-United States Senator, Dr. Robert E. Withers, extended a cordial welcome to the hospitable homes and places of health interest of Wytheville.

After prayer by Rev. Dr. Bartley, of the Presbyterian Church, the President, Dr. Ro. J. Preston, of Marion, introduced Dr. L. G. Pedigo, who delivered the *Annual Address to the Public and Profession.* His portraiture of the *true doctor*, what his aspirations should be, and might attain, showed deep study of his subject and familiarity with the opportunities surrounding the doctor. His address appears in full in the *Transactions.*

Dr. John Herbert Claiborne, of Petersburg, delivered an address on *The Old Virginia Doctor*, which we have the pleasure of producing in full in this issue. (Page 689 *et seq.*)

Among the list of applicants for fellowship was the name of a lady. After considerable discussion as to whether or not women should be admitted as members of the Society, she was almost unanimously elected.

The Committee on Prize Essays in competition for the Prize of $200, offered by Honorary Fellows, Dr. Joseph Price, of Philadelphia, Pa., and Dr. Herbert M. Nash, of Norfolk, Va., conjointly, on the *History of Surgery and of Surgeons in Virginia*, reported that they had examined the only Essay received, and did not consider it entitled to the Prize offered.

No Essay was presented in competition for the Prize of $100, offered by Honorary Fellow, Dr. Hunter McGuire, of Richmond, Va., on *The Present Status of Serum-Therapy.*

During the *Morning of September 4th*, the President, Dr.

Robert J. Preston, of Marion, asked Vice-President, Dr. John Grammer, of Houston, Va., to take the chair, when he at once proceeded to deliver the ADDRESS OF THE PRESIDENT—announcing as his subject: *Mental, Moral and Hygienic Therapeutics, in Relation to the Early Home Life and to General Practice.* He referred to the powerful influence of confidence of the patient in the remedies recommended for the prevention and cure of diseases—giving historic illustrations. He then pointed out some legitimate influences of the mind over matter, of mental operations over bodily functions, etc. He next very forcibly discussed the influence of habits in early life upon the mature man or woman. Hence the value of early inculcating moral habits of thought and of action. The home physician has many opportunities to impress the principles of mental, moral and physical hygiene so as to let the incoming generation of men and women live long and healthy, and thus prove blessings in their day. Of course, this able address will be published in full in the *Transactions.*

Dr. H. M. Patterson, of Staunton, Va , telegraphed his unavoidable detention, and suggested that Dr. B. C. Keister, of South Boston, Va., should take his place as Leader in the Discussion of the subject selected for General Discussion, namely, *The General Practitioner: His Duty to the Profession, to Himself and to Society.* Dr. Keister responded by reading a paper on the subject, but no one seemed disposed to further discuss it.

The call for papers was then begun.

Dr. Z. V. Sherrill, of Bland C. H., Va., read a paper on *Vesical Calculus in Females,* which we hope to publish in an early issue of this journal with discussion.

During the *Afternoon,* Dr. Wm. L. Robinson, of Danville, was elected *President;* Drs. Geo. Ben. Johnston, of Richmond, A. S. Priddy, of Keysville, and Chas. W. Gleaves, of Wytheville, *Vice-Presidents;* Dr. Landon B. Edwards, of Richmond, *Recording Secretary;* Dr. John F. Winn, of Richmond, *Corresponding Secretary;* Dr. Richard T. Styll, of Hollins, *Treasurer.* The Standing Committees were re-elected, with Dr. Hunter McGuire, of Richmond, Chairman of *Executive Committee;* Dr. Wm. D. Turner, of Ferguson's Wharf, Chairman of *Committee on Nomination of Applicants for Fellowship;* Dr. Hugh M. Taylor, of Richmond, Chairman of *Committee on Publications;* Dr. John S. Apperson, of Marion, Va., Chairman *Necrological Committee.* Dr. Elliott T. Brady, of Chatham Hill, Va., was elected to deliver the

Address to the Public and Profession during Session of 1896, which is *to be held in Danville, Va.*, during the Fall of 1896—the exact day to be fixed and announced by the Executive Committee after consultation with the profession of Danville.

Intestinal Indigestion is the subject selected for *General Discussion* during the session of 1896, and Dr. Lewis G. Pedigo, of Shawsville, Va., was elected *Leader*.

Drs. Robert J. Preston, of Marion, Va., J. McFadden Gaston, of Atlanta, Ga., and Thomas M. Bowyer, of Los Cruces, New Mexico, were elected *Honorary Fellows*.

Under renewed call for papers, Dr. Geo. Ben. Johnston, of Richmond, read a paper (which we will present next month) on

Treatment of Cholelithiasis.

Dr. Jacob Michaux, of Richmond, Va., was especially interested in this paper, as he had operated in a similar case to that reported in 1888. He then thought his the first case on record of cholecystenterostomy, although he afterwards found that one or two operators were ahead of him. The patient was an old lady, with all the symptoms of long standing obstruction of the common duct, with jaundice, mahogany urine, absence of normal coloring in fæces, a very marked distension of gall-bladder, etc. Medicinal measures failed, when he operated, draining the bile into the duodenum by an artificial fistula.

Dr. Hugh M. Taylor, of Richmond, Va., had recently read a paper on this subject before the Richmond Academy of Medicine. (See page 665 *et seq.*)

Dr. J. McFadden Gaston, of Atlanta, remarked that while the reader claimed only to present some points for discussion, he had occupied most of the ground ordinarily taken up by those familiar with gall-bladder surgery. There were, however, some matters not usually dwelt upon by writers to which attention might be directed. The first and most important consideration pertains to the treatment of cases in which there are gall-stones in the gall-bladder and ducts, which call for removal by incision, and it is found impracticable to attach the sac of the gall-bladder to the skin or the intestines, or to suture the wall of the duct. In these cases, it has been proposed to tampon the intervening space to the external opening with gauze with or without medication. By packing around with the gauze, and leaving the ends of the strips protruding, drainage is accomplished, and

the bile or other discharge is kept from entering the peritoneal cavity. While fresh bile is not found to be an irritant to the peritoneum, the vitiated discharge which takes place after obstruction proves hurtful, and should not be allowed to enter the abdominal cavity.

Dr. W. E. B. Davis has taken a prominent part in urging this mode of procedure, and has made numerous experiments upon inferior animals illustrating the advantage of introducing iodoform gauze into the wound for the purpose of walling off the intestines and other viscera, while it serves, by capillary attraction, to carry off the discharge.

This has been practised by others with the best results; and to Dr. Davis is due the credit of impressing upon the profession the advantages of this treatment in cases not admitting of the attachment of the gall-bladder to the external opening or the intestines, and in which it is found impracticable to close by suture an incision of the common duct after the removal of biliary calculi.

Attention may also be drawn to the applicability of this process to cases of rupture of the gall-bladder either by traumatism or as a result of disease.

In an extremely aggravated case of collapse from rupture of the gall-bladder, which came under my observation in consultation with two colleagues in Birmingham, Ala., peritonitis had already been developed, with profound vital prostration. Although we all concurred in the desperate character of the case as offering no prospect of relief, yet death being certain without an operation, it was determined to give the patient the only chance for escape. An oblique incision in the right side below the points of the ribs reached a ruptured gall-bladder with general peritonitis. The cavity was thoroughly injected with hot borated solution, and the wound filled with iodoform gauze, leaving the ends out at the external wound. The patient did not rally, and sank within four hours. If this course had been adopted very soon after the rupture, it is reasonable to infer that she might have recovered.

Another case has come under my observation in a lady who had suffered for months with hepatic disorders, and finally presented localized pain and distension in the region of the gall-bladder, which was seen in consultation after aggravated symptoms with peritonitis were developed. Being convinced that there were adhesions around the circumscribed inflammation, which shut off the gall-bladder from the abdominal cavity, my advice was given to treat

the case upon general principles, notwithstanding the indications pointed to a ruptured gall-bladder.

Small doses of calomel and soda, followed by Epsom salts, with senna tea, were given daily, so as to keep up free purgation; and a local application was made twice a day of equal parts of the ointment of mercury, iodine, camphor, and belladonna. These, with other less important remedies, secured a favorable result, and the general health of the patient has been good since.

The members of this Society may be interested in some details of a case of profound cholæmia with gallstones, in which an operation was done, some months ago, and no report has ever been made to the profession.

Upon cutting down upon the gall-bladder, just beneath the border of an enormously enlarged liver, the sac was found closely grasping a mass of gall-stones, and others occupied the cystic and common ducts, so that the angularity of the ducts was almost obliterated entirely. After incising the contracted gall-bladder and extracting, with scoops and forceps, twelve large biliary calculi from the sac and ducts, it was found that there was an adhesion of the walls of the common duct and the colon. An incision through this would have established a communication with the gall-bladder and intestine; but as there was no trace of bile present to flow out, the only result would have been the entrance of fæcal matter into the duct, so that any such a procedure would have done harm. The common duct, below the position occupied by the calculi, was entirely occluded, and, so far as could be ascertained, the hepatic ducts above were agglutinated. The atrophied gall-bladder and enlarged cystic and common ducts were packed with iodoform gauze, and the space around them was stuffed with the same material, leaving the ends of the strips protruding from the external wound, for the purpose of drainage. This was removed on the third day, and was followed by a profuse discharge of dirty sanious fluid, which indicated that there was a breaking down of the structure of the liver. On the next day there was some sign of bile in the discharge, leading to the conclusion that ulceration of the hepatic ducts had taken place. Subsequently there was a copious flow of bile from the wound, and a drainage tube was kept in to carry it off; but more escaped round the outside the tube than through it, and excoriated the skin and the opening. The enlargement of the liver was only slightly diminished, and the jaundice

persisted; yet, for a week, matters looked promising, notwithstanding the marked vital depression. Bile continued to flow from the wound in great abundance, until the end of the second week, when it gradually diminished. She was sustained by milk punch and beef soup, using an alterative tonic of Huxham's tinct. cinchona and serpentaria with nux vomica and chlorate potash, in tablespoonful doses every three hours. There was marked lowering of temperature—below the normal at times, when subcutaneous injections of strychnine and nitro-glycerin were used. This occurred especially in the morning and evening. All, however, was unavailing, and, at the end of three weeks, the patient died from the effects of the cholæmia.

My impression is, that the occlusion of the hepatic ducts gave way under a process of ulceration, and discharged outside of the common duct. The enormous size of liver prevented a proper examination of the hepatic duct at the time of the operation, and, could the exact state of things have been known, force might have been used to open the hepatic duct, and thus would have given an outlet into the natural channel.

One other point in connection with cholelithiasis is worthy of note, looking to the removal of gall-stones without any operative measures. It is known that biliary calculi are sometimes discharged after an attack of hepatic colic by the dislodgment of the stone from the common duct, and I have become satisfied that calculi are capable of escaping from the gall-bladder in some cases under the influence of medication. It is not supposed that they undergo any change in their structure, but under the relaxing and lubricating effect of olive oil, there is abundant evidence in the reports which have been made by observers that the discharge of gall-stones follows the free use of olive oil. My individual experience confirms what is claimed for this remedy; and in doses of four ounces every three hours until twelve or sixteen ounces are taken, in a case with gall-stones, I have seen them discharged with the fæcal evacuations.

Some have fallen into an error in supposing that the spherical masses of fatty matters and cholesterin which generally appear in the evacuations after taking olive oil, are gall-stones. It may be that calculi will be contained in these balls or mixed with them, but nothing can be inferred from these cholesterin formations in regard to the presence of gall-stones. These are often of considerable firmness, but will break under moderate pressure between the thumb

and forefinger; whereas a biliary calculus resists pressure, and generally the surface has facets showing that it has been rubbing against other stones. Even when gall-stones are not found after giving the olive oil, there is frequently relief to the attacks of hepatic colic, and patient has been spared the ordeal of a surgical operation. It is, therefore, regarded as commendable practice in suspected cases.

In regard to the history of gall-bladder surgery, I have to state, that the first cholecystotomy was performed by Bobbs, and the first cholecystenterostomy was done by Winnewater, when my experiments on dogs were undertaken, supplemented by those of other experimenters in this field, and awakened a new interest in this department of surgery. Quite a large number of cases of cholecystotomy, cholecystectomy, and cholecystenterostomy, with a few cases of choledectomy, have been reported by operators in this country and in other parts of the world, and the surgery of the gall-bladder is now fully recognized by the profession.

In reply to a question from Dr. Moore, of Richmond, as to his view of the function of the gall-bladder, Dr. Gaston said, that he accepted the position of some, that it was a diverticulum or reservoir for the bile, which was expelled gradually, to be mixed with the chyme as it passed through the duodenum. That this process depended upon the contractility of its coats in part, and the distended stomach exerted pressure upon it also. The bile was conducive to intestinal digestion, and promoted peristalsis, while it favors regularity in the fæcal evacuations, so that its loss is detrimental.

The paper by Dr. J. W. Long, of Richmond, Va., on *Pelvic Inflammations* was published in full in the September number of this journal.

During the *Night Session*, the paper was called for on

State Provision for Epileptics.

Dr. William F. Drewry, Assistant Physician Central Insane Hospital, of Petersburg, Va., read a paper on this subject, of which the following is an abstract:

Epilepsy is to the physician, the statistician, and the sociologist, alike, an unknown and unknowable factor. As a concomitant of idiocy, insanity and crime, it assumes enormous proportions.

The etiology and pathology being so little understood, treatment must necessarily be empirical and unsatisfactory. Little can be done in the way of medical treatment except

to modify the attacks or to lessen their frequency. A *cure* of epilepsy is very seldom accomplished. Certainly not more than one per cent. of idiopathic cases permanently recover.

No accurate data can be procured upon which to estimate the proportion of epileptics to the general population, but two per thousand is the usually accepted ratio. In Virginia, there are probably three thousand. In the poor-houses of the State there are no less than 200, and in the insane asylums the number of epileptics reaches 200—a total of 400 now being cared for by the State, though in not a suitable manner, for neither the almshouse nor the lunatic asylum is the proper place for them. Only the very violently insane epileptics should be kept in hospitals for the insane. Not more than 10 per cent. of all epileptics become insane, many, however, deteriorate mentally, morally and physically to a marked degree, unless they are properly treated in the early stages of their disease.

In the medico-legal aspect, there is too much indifference manifested. Many crimes are closely connected with a vitiated epileptoid condition, and no one can tell when and how a sudden insane impulse may possess the erratic victim of this malady.

Owing to their peculiar disease, epileptics have great difficulty in finding employment. They are also deprived of the advantages of education, etc., of those afforded by churches and places of amusement. They are shunned and neglected. An epileptic is an unconcealed skeleton at home, an object of ceaseless anxiety. A large proportion of these afflicted families are in poverty and absorbed in struggles for a livelihood; hence, the caring for a dependent epileptic becomes a heavy and grievous burden.

For various and obvious reasons, the *State Government* is well adapted to look out for the welfare of all her delinquents and defectives, and should no longer neglect her needy epileptics. The State should care for her poor epileptics in a separate institution, suitably equipped for the treatment of their distressing malady. Protection and aid to the afflicted as well as to society in general, demand that provision of some kind be made for their care.

After years of experience and actual operation, it has become a recognized fact that the special requirements of epileptics are nowhere so well met as in the so-called *farm-colony*. The prime objects of such a colony are to give each beneficiary the advantages of the most scientific medical

treatment, education, enjoyment, the most humane custodial care, and means of regular productive employment. To accomplish these objects, palatial structures are not required. Plain, inexpensive cottages, natural and home-like to most of the inmates, shops and other facilities for various industries, a hospital for the sick and infirm, halls or gynasiums for recreation and amusement, chapels and school-houses, etc., all arranged on the village plan, and attached thereto a large farm, properly equipped, to furnish employment as well as provisions for the patients and employees, meet the requirements admirably. For those who become insane, isolated buildings of a suitable character should be provided. In such an institution—conducted on the industrial plan—the beneficiaries would not suffer the ignominy attached to the pauper class, for they would be, in a degree, producers and not absolutely dependent.

The epileptic colony is not an entirely new idea, for it originated many years ago in France, and there and in Germany, England, Sweden, Holland, Switzerland, and elsewhere, it has proved to be a grand success and a source of untold good to suffering humanity.

This country has been singularly slow in recognizing her duty to thousands of epileptics within her borders, but she is beginning to be anxious in their behalf. Ohio has already a State Hospital for Epileptics. New York, Massachusetts, and other States are taking steps to establish colonies for them. It is the general opinion in these States that these colonies will, in a few years, become almost self-sustaining, so much work will be done by the patients. Will Virginia refuse to respond to the cry of her unfortunate epileptics? Hardly!

Our law-makers need to be reminded of the necessity and humaneness of special provision for epileptics. Let the medical profession, with a broad and comprehensive devotion to the general good and to individual happiness, use its best efforts in the creation of a just public sentiment in this matter.

In an article published in the *Virginia Medical Monthly* for September, 1894, the writer earnestly advocated the *State care of all dependent epileptics, in an institution exclusively for them.* He reiterates the opinion, expressed in that paper, viz., that a *farm-colony conducted on the industrial and educational plan*, and provided with every facility for the most scientific medical treatment of the patients, would meet the requirements better than any other method yet suggested.

It is feasible; it is economical; it is humane. It has been tried elsewhere and demonstrated beyond question to be a practical success.

Those who should reap the benefits of such an institution are:

First. The epileptics now confined in the State hospitals for the insane. By removing these—200 in number—sufficient room would be gained at these hospitals to accommodate probably all the insane of the State in need of care and treatment, at least for a year or two.

Second. All the epileptics now in the county and city almshouses—certainly as many as 200.

Third. Dependent epileptics; each county and city to have a number of patients proportioned to its population.

Fourth. Both white and colored epileptics—separate and distinct provision being made for each race.

To determine the question of epilepsy, proper legal proceedings should be had, as in the case of insanity. The State, however, is very sadly in need of a better law regulating the commitment of the insane.

In conclusion, it is not utopian to hope that in the near future Virginia will awaken to a recognition of her duty to her epileptics, and see the wisdom of making that provision for them which is clearly demonstrated by every consideration of justice, equity and philanthropy.

Dr. J. T. Graham, of Wytheville, Va., was so impressed by the paper of Dr. Drewry that he offered the following resolutions, which were unanimously adopted:

"*Resolved*, That it is the sense of the Medical Society of Virginia that the Legislature of Virginia should make some special provision for its dependent epileptics.

"*Resolved*, That an epileptic institution (or colony) conducted on the industrial plan commends itself to approval by this Society.

"*Resolved*, That a Committee of five Fellows, one of whom shall be the present presiding officer of this Society, be appointed—four by the chair—who shall present this matter to the General Assembly of Virginia, to meet next December, and try to induce that body to give it that attention it justly deserves."

The President appointed Drs. J. T. Graham, of Wytheville, Wm. F. Drewry, of Petersburg, L. G. Pedigo, of Shawsville, John White Nash, of Williamsburg—Dr. Robert J. Preston, of Marion, being a member of the committee on adoption of the resolutions.

Dr. Hugh M. Taylor, of Richmond, Va., read a paper on

Post-Operative Intestinal Obstruction.

The death rate from this form of obstruction may reasonably be believed to be larger than from 1 to 2 per cent. He divides the cases of obstruction into (a) those caused mechanically by twists, adhesions, hernias, matting of the bowel, etc. (b) Those due to sepsis and intestinal paresis incident to sepsis. (c) Those due to intestinal paresis, and obstruction caused by injury to the nerve supply of the muscular coat of the bowel.

The exact diagnosis cannot be made during the first twenty-four hours. Hence we are often compelled to delay operative relief. We can do much toward preventing intraperitoneal adhesions, by covering the surfaces abraded of endothelium, and especially the stumps or ribbons of omentum. Plastic work to close pockets, and to bridge over abrasions, is all-important. To do away with the chances of adhesion, some use a thin coating of aristol on denuded surfaces; others wipe out the cavity with a sponge saturated with sterilized olive oil. But this latter, as well as the use of the actual cautery, are of questioned safety. Normal saline solutions, or sterilized water alone, are rapidly taking the place of antiseptic irritants, as they do not devitalize the tissues. It is claimed that flushing the abdominal cavity with sterilized warm water, or sterilized weak saline solution, and closing tne abdomen, with this fluid left in it, prevents adhesions. Dr. Adenot points out that some cases of post-operative occlusion are due to the physiological impermeability of left subcostal angle of the colon. Catheterism of the rectum with flexible tubes may succeed in relieving the stricture in some cases, whether associated with gases or fluids. If an occlusion should form after laparotomy, and not be relieved by simpler measures, do not hesitate to reopen the abdomen. Use no opium after laparotomy. Turn the patient from time to time on his side. Purgatives after laparotomies do good in many ways in preventing septic obstruction; but after intestinal paresis occurs, they do injury. Expectant treatment is only justifiable in abdominal lesions, where the diagnosis of intestinal obstruction is positively excluded. The only rational remedial resource is early operative interference in cases of recognized post-operative obstruction of the bowels.

Dr. Wm. L. Robinson, of Danville, Va., was much interested in the subject. Statistics from many large surgical

centres give results as to the treatment of post-operative obstruction of the bowels that are evidently (to practitioners elsewhere) not real. If laparotomists generally followed out their reports of their cases until they could be no longer seen, their records would include many deaths. Intestinal adhesions give results that are not usually even referred to in the reports of cases of some who want to appear before the surgical world as successful surgeons. To limit the chances of adhesions, it is well to thoroughly purge the the patient before undertaking a laparotomy. To undertake to break up formed adhesions is dangerous. He has tried most of the plans recommended to prevent adhesions; but his best results have been after filling the abdomen with sterilized water and leaving it there, as recommended by Price and others. Surgeons generally temporize too long in cases of post-operative obstructions. He fully accords with the recommendation of the paper; whether due to sepsis or adhesion, go into the abdomen again. If the bowel is distended by fluid or gas, so as to be the cause of paralysis of its own walls, puncturing and draining the gut, if necessary, give better results than letting it alone. Strychnia is useful; enemata of quinia gives still better results.

Honorary Fellow, Dr. Joseph Taber Johnson, of Washington, D. C., said this is as thoroughly practical a paper on the subject as he knew of. The frequency of post-operative obstruction is greater than authors state. Sometimes vomiting sets in while the patient is on the table, causing imperfect closure of the abdominal wound; or it may be that raw surfaces remain in contact with the gut; or even the contortions of the patient cause some suture to include the gut. Sometimes adhesions take place as the result of unduly long exposure of the bowel. Sometimes mechanical twisting of the gut results from the manipulations of the doctor or assistants, in trying to push back the intestine that tries to get out, and stay out, of the abdominal wound. Diagnosis of post-operative obstruction is often difficult. The surgeon is apt to hope that what he fears is not so, until he is finally satisfied that obstruction does exist. Even then he does not know whether the obstruction is due to adhesions, twisting or paresis. Prophylaxis is not yet satisfactory. Handle the intestines as little and as gently as possible. Fill the abdomen with sterile water, and leave the intestines floating on it. In cases thus far treated in this way, adhesions have not occurred. Besides, this quantity of water in the abdomen relieves the thirst after

the patient comes from under the anæsthetic, which oftentimes seems insatiable. Keep pouring in the water, until it comes out clear. As to opium, he is in full accord with Drs. Price and Mann, that it favors obstruction. As to position, he advises to let the patient lie on her back for 24 to 48 hours after laparotomy. She gets on better. Early purging does good. Quick operations are important. Small incisions are better than unnecessarily long ones. As to the radical cure of post-operative obstruction, there is only one thing to do. Price says "delay is the fool's paradise." You have to open the abdomen again, and the sooner the better.

Honorary Fellow, Dr. Hunter McGuire, of Richmond, spoke of the paper as an able one, and as expressing conclusions which, in the main, coincided with his experience. He wishes to emphasize that post-operative obstruction of the bowels is frequent—much more so than surgeons usually report in their journal articles. A knuckle of gut is often found post-mortem, or in secondary operations, fastened to the old wound in the abdomen. Hence we have to be cautious in secondary operations, that in attempting to open the abdomen, you do not also unintentionally push your knife, or other instrument, through into the cavity of the intestine. When the diagnosis of post-operative obstruction is made, do not hesitate to operate at once—delay is more dangerous than the operation, promptly repeated. In two cases he recalls during the past year or so, he is satisfied he saved the lives by promptly acting as he advises. One of the cases was with Dr. Hugh T. Nelson, which he may report. He prefers chloroform as the anæsthetic in such cases, because it does not cause vomiting as surely as does ether, and besides the duration of the vomiting after chloroform is shorter than that after ether. As to diagnosis, he looks upon vomiting, after a belly operation, as an important pointer out of post-operative intestinal obstruction. If chloroform has been used, and the vomiting persists beyond an hour or two, watch out for obstruction of some kind. The thermometer is not much of a help in such cases, for the temperature of peritoneal or enteric complication is kept down by the vomiting. An otherwise unaccountable rapid pulse is more to be relied on as an indication than the temperature under such circumstances. In addition to the rapid pulse and protracted vomiting, if tympanites develops, with swelling of the belly, we may quite surely say our diagnosis is made—at least satisfactorily enough to open up

the belly again and see what is the matter, and relieve the case if we can. If forming adhesions are found, separate them with sterilized sponges, or with a periosteal elevator. Dip the finger in Monsel's solution and smear it over the exposed raw or roughened surfaces to prevent adhesions. Then fill the abdominal cavity with sterilized warm water, and sew up the wound. The water does good as just pointed out by Dr. Johnston. As to opium, he does not like to use it. But when the patient suffers intolerably, he gives hypodermically an eighth of a grain to secure a little ease and sleep, but does not repeat it. As for himself, the dogmatic, persistent saying, "I won't give opium," is cruel.

Dr. Hugh T. Nelson, of Charlottesville, Va., incidentally reported the case of a lady on whom he performed (last April) hysterectomy, on account of a large fibroid. Later on, something that had the appearance of a pus tube was detected. An eminent New York surgeon made an opening through the cul de sac, but found that the apparent pus tube was an accumulation of fæces in the bowel.

The gut was emptied, and for a month or so she was better. But the same condition has now returned, and he has exhausted his resources to keep down the accumulation of fæces, so that now the case is even more aggravated than it has ever been. In the back part of the lower abdominal cavity, there is seemingly an obstruction of the gut due to the accumulation of organized lymph. And yet the formed character of the fæces, when passed per rectum, does not indicate that the lumen of the gut is lessened in size.

Dr. H. M. Taylor remarked, in closing the discussion, that so far as Dr. Nelson's case was concerned, it is not necessary to get diminution of the lumen of the bowel in order to have post-operative obstruction, Partial paresis would account for such a case, and the prolonged use of some agent like strychnia internally, with moderate stimulating enemata high up in the colon, if such could be given, would seem indicated.

September 5th—Thursday Morning.

Dr. Paulus A. Irving, Richmond, Va., read a paper on

Puerperal Sepsis.

The paper contained a lengthy report of a case of puerperal sepsis, occurring without traceable cause, several days after labor, developing hyperpyrexia, resulting in death. Intra-uterine douche, with return current, was used in the

treatment of the case with special aseptic precautions. The paper will appear in full in the *Transactions.*

Dr. Wm. L. Robinson, of Danville, Va., remarked that every practitioner is interested in the subject of this paper. Prevention is the proper treatment. Auto-infection is rare. Diseased tubes may be the cause of trouble in reputed auto-infection cases; so may the efforts of repair of parts torn, as cervix, perineum, etc. He does not agree in the common sentiment that abdominal surgeons especially may not also safely attend cases of obstetrics. Thorough surgical cleanliness is all that is necessary. Pus is infectious, and it is hard to get the stench off the hands. Probably, in the case reported, there was a laceration of the cervix, which was overlooked in labor. He has seen such cases, where the wound became infected by the pus. In all such cases, he washes the parts with "hydrozone." It is a pus-finder as well as pus-destroyer. Whiskey internally, with hydrozone locally, he regards as the best treatment. Prolonged use of chloroform in labor causes weakness of the system, and thus leaves the patient in a state of susceptibility for the action of any pathogenic germs that may be about—whether carried to the denuded parts by the patient's hands or cloths, by the nurse, or the doctor He, some time ago, had a case of stellated laceration of the cervix in labor. Over-eating four days afterwards caused violent colic, and some of the usual earlier manifestations of puerperal sepsis set in. Prompt purgation gave relief, but every three or four days the symptoms recurred, in a milder form each time, until they permanently disappeared altogether.

Dr. Hugh T. Nelson, of Charlottesville, Va., said he had been much more unfortunate than the writer of the paper. He had had four deaths from septic infection, although he had used the measures to prevent it which authors recommended.

The older practitioners said they had patients to die after labor from "cold;" but the cause was really sepsis. Laceration of the uterine mucosa or of the vaginal mucous membrane may be said to be normal—so universal is it; but if these parts are kept aseptically clean, germs do not get in. Do not keep up intra-uterine douches, etc. He does not think surgeons, as a rule, should be obstetricians.

Dr. Jacob Michaux, of Richmond, Va., would remark only on some points to which reference was not made in the paper. He believes puerperal infection is heterogeneous. One of the saddest cases that ever occurred in his

practice was a case of puerperal fever, for which he could not, at the time, account. Afterwards, he found that his case was traceable to a visiting sister who had been waiting on a case of puerperal fever in a neighbor. Signs of puerperal inflammation set in thirty-six hours after labor. He administered purgatives, quinine, and used vaginal douches of mild, warm solutions of carbolic acid. Five days later, he used the return current intra-uterine douche. Soon after leaving the house, he was hurriedly called back to find his patient moribund from hæmorrhage. He has seen puerperal fever develop in a case he attended after coming from a case of erysipelas. He is skeptical about the value of the curette. If any such instrument is to be used, he advises the dull curette, and this should be used without force. If the smallest cut, or "ruck up," is made with the sharp curette, an easier access into the system of any germ is thereby gained. The safest plan is not to let any one who has been attending a case of infectious disease visit the puerperal patient.

Dr. Thomas J. Moore, of Richmond, Va., remarked that labor is a natural process, and the doctor should keep his hands off as far as practicable. Surgeons should use all the known precautions before attending a labor case. He has never had a strictly puerperal sepsis case in his life; in fact, he never saw a death in labor. He is not afraid to introduce his finger into the uterus as often as may be necessary to help diagnosis. If a case were to develop in his practice, he would treat it as surgeons would treat septic fever. If there should be a rent in the perineum after labor, sew it up. Wash out the vagina with bichloride of mercury solution, and immediately afterwards with an alkali solution, so as to prevent possible poisoning by bichloride of mercury. He gives quinine to relieve after-pains and to act as a nerve tonic.

Dr. J. A. Hodges, of Richmond, Va., emphasized the opinion that a puerperal patient and all of her surroundings, the nurse, physician, etc., should be surgically clean. It should not be forgotten that bacterial germs live and thrive in simply sterile water.

Honorary Fellow, Dr. J. McF. Gaston, of Atlanta, Ga., was much interested in the paper. In the use of the intra-uterine douche, the return current should be secured. A patient from Texas had such a hæmorrhage in Atlanta as to require delivery. She was carefully washed out with a 1 per cent. solution carbolic acid. On each occasion nerv-

ous shock developed, followed by a fever marking 102°. Purgations also occurred as a result of the injections. He noted this case to remark that harm is done by interference when the discharges are natural and the patient healthy.

Honorary Fellow, Dr. Hunter McGnire, of Richmond, Va., read a paper giving a detailed account of

Seventeen Cases of Relapsing Appendicitis with One Death.

In commenting on these cases, Dr. McGuire said that there was a class of cases of appendicitis belonging to the doctor and not to the surgeon—requiring medical treatment and not surgical treatment; that others required an operation in the interval between the attacks, and others again as soon as they could be seen. But the cry of surgeons to operate on appendicitis as soon as the case was diagnosed did not meet with his approval; in his experience, many of them got well without it. In the thirty-six cases of appendicitis he had operated on, he had never seen any fruit seeds of any kind, and he thought the fear of the public as to eating tomatoes, grapes, and fruits of various kinds with seeds, was an unnecessary one. He did not deny that these seeds sometimes got into the appendix, but that they produced appendicitis or were the ordinary cause of this condition, he did not for a moment believe. His paper was a lengthy one, and will be published in full in the *Transactions*, and a very extensive abstract of the paper will be published in the *Medical News*.

Honorary Fellow, Dr. John Herbert Claiborne, of Petersburg, Va., remarked that few had felt so much interest as he in this subject. Often has he asked himself what is and why this appendix that hurries so many to the grave? He does not know what it is for, but it has an object. He was especially glad to hear so eminent a surgeon as Dr. Hunter McGuire cry, "halt." For forty-four years he has been in practice, and has never seen a patient die from appendicitis who was not operated on. Dr. Bryant, of New York, claims to have examined 150 cases of appendicitis, but has never seen a foreign body in the appendix. General medicinal treatment *is* serviceable in the treatment of such cases of appendicitis, typhlitis, perityphlitis—by whicn ever na.ne designated—as have come under his observation. He does not deny that there may occur surgical cases; but as for the treatment of those cases that have come under his charge, rest in bed, leeches over the tender part, and the application of what is known as the "aseptic poultice" (an

ordinary flax-seed meal poultice made up with a heated saturated solution of boric acid), have proven altogether satisfactory. Bichloride of mercury may be given internally. If it reaches the appendix, it poisons "the beast" that is said to be doing all the harm. Small purgative doses of salts may be occasionally given, and the diet eliminated to fluids, as in the treatment of typhoid fever, etc. If temperature runs high, he uses ice externally and internally. He has seen no harm from the use of opium and atropia combined if pain or restlessness require them. He has seen the diagnosis made of appendicitis on the left side, but it turned out to be a case of displaced kidney and neuralgia—it was renal colic.

Dr. Lewis G. Pedigo, of Shawsville, Va., thinks that Dr. Claiborne has made the mistake in not understanding Dr. McGuire's position. The functions of the appendix are not known. It may be that most animals are not aware of this organ, and man seems to have become conscious that he had one only, when, like the monkey, he rose on his hind feet. The principle involved in appendicitis appears to be that gravitation resists the freedom of the portal circulation. We should keep in mind that the return circulation of the appendix is through the liver. Hence the importance of a free portal circulation both in the prevention and treatment of appendicitis. Laxatives are undoubtedly useful. He referred to his own case which he reported at the last annual session. It is true in his case that Dr. Morris could not find a pathogenic germ in his appendix, and after examining it scarcely knew what he had cut it out for. But this he (Dr. Pedigo) did know, that all the torturing pains and anxieties that he had suffered for seven years were relieved by the removal of his appendix. He would not say that all such cases required operation—indeed, he does not think that enough discrimination is used in this operative day before sending the patient to the surgeon. Calomel, undoubtedly, is a proper medicine, and especially does he advocate minute doses at bedtime.

Dr. Hugh M. Taylor, of Richmond, Va., called attention to the fact that only one small artery supplied the appendix; that the circulation in it is what is called a terminal one. Furthermore, the mesentery of the appendix which connects with the small mesentery, is too short. Hence, the appendix is so almost invariably flexed on itself. If the caput coli becomes distended by fluids or gases, this distension affects the circulation. Hence, another way in which pur-

gatives do good—they help to get rid of the gases. Sometimes we find the appendix on the left of the central line of the body. This may be due to embryological arrangement of parts. As to Dr. McGuire's paper, he scarcely knows what to say. A greater number of cases of appendicitis occurs in women. They have an additional blood supply from inosculations with the ovarian blood vessels; also, there is a rich lymphatic relationship between the ovary and the appendix. Such experiences as that of Dr. Claiborne are wonderful. It may be that the operative surgeon is called on to treat simply the worst cases; and in going over their histories, he sees the stage of the disease when, if he could have operated then, he believes his results would be most encouraging. But this raises the question of diagnosis between those cases that are curable without, and those that are curable only with the use of the knife. How to tell which case is going from bad to worse, is the important point. He does not know of any set of signs or symptoms by which this can be done. If the case permits, he favors waiting till the interval between attacks of appendicitis before operating. But delays here, as in cases of post-operative obstruction of the bowels, are dangerous. We are always risking the getting of a worse condition to deal with than we have now. He has recently seen a case that stands in illustration. A child had marked symptoms of appendicitis. The physician advised operation, but the parents postponed consent. Finally, purulent matter developed rapidly; the pus became soon walled off from the peritoneal cavity, and also closed the entrance from the caput coli into the appendix. Attachments fortunately formed with the abdominal wall in front, so that scarcely more than a puncture drew off in a single night and day about a pint and a half of pus. Of course, the operation was done aseptically, and drainage was promoted by iodoform gauze. Surgery triumphed in this case. The patient is now well.

During the afternoon, Dr. Lewis Wheat, of Richmond, Va., continued the discussion of the subject. (Notes of his remarks not received.)

Honorary Fellow, Dr. Joseph Taber Johnson, of Washington, D. C., remarked that in relapsing cases of appendicitis, there can scarcely be any doubt as to what is the duty of the surgeon. The patient suffers with great pain in the right lower abdomen; he is in bed, vomiting, desperately ill, etc. Can we safely wait, or must we operate at once?

Dr. Johnson lays emphasis on the injunction, Operate as soon as the diagnosis is made. The expectant or let alone treatment cannot be depended on in such a case. He cannot understand how there can be this great diversity of opinion and of records between surgeons and physicians.

Dr. Thomas J. Moore, of Richmond, has again to oppose the wholesale verdict of surgeons. He has watched the rise and now what appears to be the ebbing of professional opinion on this important subject, studying it equally from the standpoint of the surgeon and physician. Beside the weighty authority of Dr. Claiborne, sustained by the experience of many able and successful general practitioners of physic of his acquaintance, he is glad to know that so eminent a surgeon as Dr. Hunter McGuire places himself on the conservative side of the question and calls for a halt in the reckless surgery of some who have undertaken to record their successes in appendicitis cases, when just as good, if not better, results would have been secured without operative interference. Dead houses have revealed many cases of long ago appendicitis—cases that have died of other troubles or injuries having no connection with the appendix. No one denies that there are cases of appendicitic troubles that require the use of the knife, but he does believe the day has returned when the great bulk of good, honest and successful practitioners will take the same conservative view of the subject as that expressed in Dr. McGuire's paper.

Honorary Fellow, Dr. George Tucker Harrison, of New York, said that the papers read and discussion held on this subject before this State Society, last year and this, make him feel that he is carrying coal to Newcastle in attempting to say anything on appendicitis. He may be in the minority in this section, but he is not in New York, in believing that an appendicitis is apt to run into a surgical case; and that as soon as the diagnosis is established, the right treatment is to operate—either to relieve existing trouble, or, by removing the appendix, to prevent the recurrence of dangers just passed through in the recent appendicitis.

Dr. Jacob Michaux, of Richmond, Va., reported an interesting *case of rheumatism simulating appendicitis.* The patient, an adult, had an undoubted case of rheumatism in the arm. After convalescence from this trouble, pain suddenly developed in the appendicular region, and as suddenly disappeared without leaving an unpleasant sign or symptom to indicate that there was even a mild case of appendicitis.

Pyæmia and Septicæmia in their Surgical Aspects.

Honorary Fellow, Dr. J. McFadden Gaston, of Atlanta, Ga., read a paper on this subject, of which the following abstract is presented:

During the past decade, my views have been presented to the profession on sundry occasions touching the important rôle of septic processes in the physical organism. There is nothing, in my estimation, connected with pathology, of more pervading and far-reaching influence, than the grave consequences of general contamination. The insidious progress of infection of various forms in undermining and disintegrating the vital organs, appeals to the medical philosopher and the surgical pathologist for the most profound consideration. A thorough comprehension of the normal condition of the various structures which enter into the composition of the different organs of the body, is a prerequisite for understanding their disorders and diseases; and some familiarity with biology and histology is, therefore, essential for entering upon an investigation of septic troubles.

Among those who have taken a part in the study of bacteriology as allied to surgery, I have watched with great interest the development of the germ theory of the origin of diseases, and yet have not been so carried along with the current of opinion as to ignore entirely the fact that thus far it has not met all the requirements for comprehending pathological conditions. Without discrediting scientific experimentation, there is quite sufficient evidence that grave mistakes have been made in the mode of investigating the relations of cause and effect, connected with the presence of a microbial element in the different parts of the organism. That some diseases are uniformly accompanied with bacilli of a definite kind, does not suffice to give a final decision as to the etiological factor in these diseases; and much less is it a conclusive indication for the therapeutic measures which are required for the relief of such a disorder.

The high authority of the Johns Hopkins faculty, headed by the distinguished bacteriologist, Dr. Welch, is arrayed against the employment of any germicidal or prophylactic solution in operating upon normal structures, and sterilized water only is used in washing fresh-cut surfaces. In the very instructive discussion upon radical operations for hernia before the Southern Surgical and Gynæcological Association at Louisville, Dr. Howard A. Kelly criticized the

technique of a distinguished colleague who thought it proper "to conduct the entire operation under irrigation with a weak sublimate solution." "I would urge him," he stated, "to abandon the use of solutions of the bichloride of mercury. The value of the inhibiting power of this drug over germ life, is more than counterbalanced by its necrosing effect upon the tissues." Notwithstanding the most pronounced expression of those best qualified to determine upon the injurious effects of irrigation with mercuric solutions, it is found that some members of the medical profession continue to use them from force of habit, and they must learn by bitter experience to abandon the error of their ways.

The relations of bacteria to diseased processes in the organism depend, to a very large extent, upon the predispositions of the structures to take on disease, and upon the development of leucocytes which arrest the morbid element. It is held generally by bacteriologists that the predominance of phagocytes in the tissues, which may be involved, prevents the hurtful influence of bacteria, and that the phagocytal process serves as a prophylactic against structural disorders. Indeed, it is questionable whether active, living micro-organisms cause disease, and it may be fairly inferred that the loss of vitality in the micrococci is the source of trouble in most cases of morbid developments.

This lends force to the view that ptomaines have an important rôle in the disorders of the physical organization, and the impression has been growing that this is the septic element in the suppurative and destructive results of any contamination from without. It is evident that ptomaines contribute chiefly to the development of septicæmia in most cases.

That pyæmia may occur independent of any ptomaine element is a fair inference from the history of cases in which purulent absorption seems to account satisfactorily for the train of disorders which are observed. In the cases of multiple abscess which are developed from a purulent focus, there is no reason to doubt that pus has entered the lymphatic system, and being arrested at certain points, leads to local collections of a purulent character. These abscesses conform in most respects to the characteristics of what is known as cold abscess, partaking of the nature of chronic abscesses, and are rarely accompanied with the acute inflammatory manifestations of phlegmonous abscesses. When a purulent focus leads to the absorption of pus, there must

be a deficient formation of that protecting sac known as the pyogenic membrane, and consequently the purulent collection escapes into the cellular tissue, and is taken up by the lymphatics and conveyed to the blood-vessels or the capillaries. It thus becomes absorbed, and in some way not very well defined, develops pyæmia, commonly understood as blood-poisoning.

These collections of pus are not confined in a distinct and circumscribed area by a pyogenic membrane, but permeate the cellular tissue and extend along the sheaths of the tendons, thus assuming the character of diffused abscess. The toxæmia now may be limited to one side of the body entirely, or may extend throughout the absorbents on both sides, and thus become general, involving the whole system. The exhaustion of the vital forces at this stage is usually accompanied with great emaciation, and the nutritive process becomes so much impaired that nourishment avails but little.

In a paper submitted for fellowship in the American Surgical Association in 1893, the full report of a most protracted case of pyæmia was given in detail. This patient presented all the various features of the different stages of this affection, and I would refer those who are interested in the history of this disorder to the *Transactions* of that year for information in regard to the progressive destructive work of this disease to its fatal termination after the lapse of nearly five months, attended with extreme emaciation.

As an offset to this fatal result, I may advert to two fortunate cases of great gravity in members of the medical profession—one being in the person of an interne in the Providence Infirmary at Atlanta, and the other being that of a prominent practitioner of Anniston, Ala. The former occurred from slight injuries to the hand in making a post-mortem examination under my observation, and came under my care, beginning with points of local irritation extending to the entire arm, and becoming in a few days a constitutional disorder. It ran through a most violent course, attended with suppuration at various points in the hand and arm, and leaving the subject extremely prostrated and emaciated, with a long-protracted convalescence. There was finally remaining only the stiffening of two fingers of the affected hand.

The latter case, above mentioned, was seen in consultation with colleagues, and was in consequence of a scratch by a piece of necrosed bone in performing a surgical operation. Incisions had already been made to relieve tension at seve-

ral points about the hand and wrist, and the patient was kept under the influence of morphine. It may be briefly stated that with the treatment, which will be outlined, he eventually recovered entirely.

The indications at the outset, when there is local irritation at the point of injury, is to incise the affected part and cauterize with carbolic acid, applying to the adjacent area an ointment containing equal parts of the following:

℞ Ung. hydrarg.
Ung. iodi. compos.
Ung. camph.
Ung. bellad.

A poultice of flaxseed meal may cover the inflamed structures, and renewed frequently to keep up heat and moisture.

If there should follow much swelling and great tension, incisions should be made freely to relieve the constriction and give an outlet to the sero-sanguinolent accumulations. This course is more especially indicated when the hand is involved; and when the inflammation extends up the arm, involving the axillary glands, the ointment and poultice should be carried up to the shoulder, so as to cover the entire arm.

If the case progresses favorably, there may be no accumulation of pus above the elbow; but if abscesses form, they should be promptly evacuated and washed out with antiseptic solutions.

The proper sphere of real antiseptic surgery comes into play with pyæmia and septicæmia, as there are pre-eminently septic developments which require the use of measures to counteract the contamination of the organism. Not only in the local but in the general manifestations is sepsis to be combatted, and hence it becomes requisite to correct the secretions and stay the invasion of the organs by internal antiseptic remedies. Some have regarded alcoholic treatment as indicated from the outset of the disorder, and that nourishment of a character to prevent the waste of tissues should be combined with the alcoholic stimulant. The mixture of milk and whiskey or brandy, in form of milk-punch, is found to meet the requirements satisfactorily as a routine diet. But it is desirable to supplement this with beef soup, corn-meal gruel, malt, and fresh vegetables, such as Irish potatoes, ochre and tomatoes, suited to the state of the digestive organs and to the powers of assimilation. It is a matter of paramount importance to sustain the physical organization throughout the septic process.

Case of Cerebral Trauma---Indistinct and False History---Remarks on Diagnosis and Treatment.

Dr. M. J. Payne, Locust Grove, Va., forwarded the report of a case that occurred in his practice last May.

Broadus D., colored, male, age 18 years. Personal and family history good, by statement. He was first seen *May* 1, 1895 His present illness came on suddenly, but he was uncertain when he first began to complain. He denied having previously consulted any physician.

Nervous symptoms.—He complained of severe headache, restlessness and inability to sleep, and appeared excited and very nervous; had an empty, half-gazing stare, with red and suffused eyes; no photophobia; vision normal; pupils reacted normally. He would now and then quickly spring up and start suddenly across the room if not detained. This excitement approached very nearly to maniacal.

Digestive symptoms.—Anorexia, some little thirst, and almost absolute constipation. Tongue coated heavy and pasty white; breath heavy. No tympany, no tenderness, no iliac gurgling. Just above the pubes he stated there was a severe pain, but no tenderness; no cystitis. Had never had specific trouble. Functions of bladder normal. Urine rather scant; otherwise normal. Pulse, 72—slow, full and regular. Heart and lungs normal. Temperature, 102.8°. Skin hot and dry. He was carefully questioned in regard to having been struck on the head or having fallen in wrestling, or from a wagon, or having been thrown from a horse, etc. This he and his parents positively denied.

May 2. Pulse, 62; temperature, 102°. General condition about the same, though more quiet; complained that he could not see clock face near by.

May 3. Pulse, 64; temperature, 102°. Apparently better; slept very well; not so restless as on day previous; vision much more affected.

May 4. Pulse, 62; temperature, 103.2°. Stupid, dull, apathetic; answered questions slowly and hesitatingly, and often incorrectly—muttering some delirious reply, such as "Old Isaac says I can't drag the plow up the hill backwards and chop it up fine," "Me and Ed. are going to——," then a low muttering and a restless shuffle of position. On arousing him, he would get up and know physicians and others, but would lapse at once into stupor and delirium. Vision distinctly affected; no photophobia; said his head did not ache.

May 5. Pulse, 67; temperature, 103.2°; very dull and delirious, but somewhat better; hair was clipped short and ice applied to scalp.

May 6. Pulse, 70; temperature, 103.2°; stupor deepening, approaching coma; could, however, be aroused, and would do as told hesitatingly and very slowly, often stopping for a moment, then continuing. Digestive symptoms much better; pain over pubes disappeared, and no headache.

May 7. Pulse, 85; temperature, 103.2°; comatose, deeply unconscious, insensible, skin hot and dry; constipation absolute; would not protrude tongue; could, however, swallow very well. There was right hemiplegia, with no loss of sensation; pupils immobile, did not react at all; both pupils dilated, but left pupil widely dilated. Tendency to right internal strabismus with some nystagmus of right eye; left eye fixed and looking steadily to the front; eyelids half open; respirations sighing and irregular; no stertor.

May 8. Pulse, 90, and weak; coma deep. Symptoms same as day before; in addition, face was involved in paralysis; scalp was shaved, and on examination a marked localized œdema surrounding the left parietal protuberance was noticed. Temperature left side, 102.2°; right side, 103°. As on May 1, a careful examination failed to reveal any fracture or depression, or ridge of skull; no cracked pot sound, but pain and a peculiar movement of left leg and arm were elicited by percussion. A number of small scars were noticed, however—one sore not entirely healed. This irregular appearance caused me to think of the uneven surface of the ground. I afterwards learned from "outside talk" that he had been thrown from a colt some six weeks before being taken ill, and had spent Easter Monday night in a drunken carousal with some friends in the woods.

Diagnosis—Where an injury is so positively denied, however strong the suspicion may be, greater care has to be exercised in arriving at a correct opinion of the cause. It will be remembered that a history of an injury could not be obtained in this case; yet there existed a strong suspicion in my mind that the parents knew more than they had told. So often do we notice little betrayals in the actions and habits of our patients, that while not conclusive, often turn suspicion into the right path, and thus a correct opinion is formed without a true and full history.

Acute traumatic encephalitis was the diagnosis then because "the injury" was suspicioned, and the suspicion was confirmed by the course of the case. Acute traumatic en-

cephalitis begins in from one to three days after the injury, and gives rise to headache, pain, and elevation of surface temperature at the seat of injury (to the brain substance), restlessness, insomnia, excitement, delirium, general fever, and full and frequent pulse; as compression comes on, the pulse becomes slower; constipation and probably vomiting occur. As the disease advances, twitching of the muscles, convulsions, stupor deepening into absolute coma, and paralysis ensue in successive order. A frequent and irregular pulse, clammy sweating, and dilated pupils argue unfavorably. The paralysis is due to compression brought about by the inflammatory exudate.

Chronic traumatic encephalitis presents somewhat the same picture as acute encephalitis, differing in that, in the chronic form, the onset is several weeks or months later, is more insidious and the symptoms are not so pronounced. (In this case, however, the patient stated that the onset was sudden, and the symptoms were very pronounced.) Mental hebetude, epileptiform convulsions, and irritable temper are early noticed. Choked disk, with no loss of acuteness of vision, will be found on an ophthalmoscopic examination. Later, localized paresis or paralysis, followed by coma and death due to the formation of an abscess, unless relief is given by removal of the pus. While it is usual for photophobia and intolerance to sound to exist in acute encephalitis, yet an absence of these almost constant symptoms was noticed in this case. I believe that the marked failure of vision in this case was due to œdema of the retina.

Prognosis.—Acute traumatic encephalitis, as a rule, speedily terminates in death. The chronic form gives a better opportunity for suitable treatment and, therefore, recovery, though often it too is fatal.

Treatment.—The main indication was to lessen or control the inflammatory condition of the brain and its membrane. The treatment was as follows: Rest in bed in a darkened room and careful watch kept. Warm baths and extreme cleanliness. Milk diet. Purgatives, such as calomel, jalap and salines, were administered with the idea of lowering the intracranial pressure and controlling inflammation. They all were very inefficient. Enema of hot water had to be resorted to in addition. Often purgatives fail to act when there is marked intracranial pressure. Often in apoplexy, purgatives will fail to act; if you bleed even but a little, the purgatives then act severely. The bromides, two drachms per diem, were used without effect. Cannabis

indica (fluid extract), for insomnia and restlessness, acted well. Mercury and opium were given to combat the inflammation without any beneficial influence whatever. Ice to the head and sinapisms to the feet proved valueless. In short, the case progressed from bad to worse.

On May 9, the localizing symptoms having become sufficient to locate the lesion, with the help of Dr. James M. Scott, an operation was done.

In chronic encephalitis, the usefulness of operative interference is clearly established. In the brain, pus and inflammatory products cannot gain a natural outlet. The first rule in surgery is to "Let out the pus" (Keen). Pus confined in the brain should be let out. While it is considered bold to operate in acute traumatic encephalitis, and there are not a sufficient number of cases on record to judge of its usefulness, yet the inflammatory products should be removed just so soon as the trouble can be located. This is imperative. Indeed, if the symptoms of pressure be very pronounced, a simple trephine operation, done early, will be of great benefit. If there exists a scar, make this the site of the operation; and if the dura bulges and is discolored, open it and see the nature of the trouble. Your patient will probably die anyhow; therefore give him the best possible chance. (This is before the occurrence of localizing symptoms.)

Location of the lesion.—In this case, right hemiplegia, with facial paralysis following, later aphasia, and third, nerve paralysis, showing very plainly that the lesion was located on the left side, and that the ascending frontal and ascending parietal, with Broca's convolution, were affected. The course of the paralysis, which was first leg, then arm, then face and oculo-motor nerve, and later aphasia, showed that the lesion started above and progressively extended downward. It is possible that the distinct affection of the vision might have been due to pressure of the cuneus, but I could not gain clear enough answer from the patient to prove this, and hence it could have been due to œdema of retina.

Operation.—The fissure of Rolando was marked out and the scalp turned back, using the large horse-shoe shaped flap. The trephine was applied over the center for the leg, and on removing the button of bone, the dura bulged into the opening. No pulsation of the brain was detected. The dura was then opened, and the arachnoid and pia were found to be dark, congested and breaking down. Lying on the brain surface was a dark organized inflammatory exu-

date, which was beginning to undergo softening. The trephine was again applied lower down, after enlarging the opening and gaining more room to work. The same condition of affairs was noticed. The general circulation of the patient was noticed to improve distinctly. Attention was now directed to removal of all of the exudate, but, as we advanced, it was found that the grey matter on the surface of the convolutions was undergoing rapid inflammatory changes. It therefore would have been foolish to have tried further to remove any of the inflammatory product, for the extent and depth of the lesion were beyond the pale of the knife. This, then, was necessarily a fatal case. The patient lived about six hours after the operation.

I was surprised when he was placed back on the bed to see the pulse and respiration grow better. A pulse of 140 came down to 128. Respiration now quiet and regular. Unfortunately, no post-mortem could be had.

Dr. Payne reported the case for the following reasons: 1st. It is not often that a local surgeon or physician is called upon to treat a case of acute traumatic encephalitis.

2d. To show that, while one case of acute encephalitis (American Text-Book of Surgery) was benefited by operative interference, yet all cases are not amenable to this method of treatment.

3d. To show the uselessness of medical treatment, and to express a positive conviction that the best possible success is promised in early and wise operative interference.

4th. To show the absolute necessity of a minute knowledge of the technique of cerebral surgery and cerebral topography.

Dr. B. C. Keister, of South Boston, Va., read a paper on *Varicocele*,

Dr. J. Allison Hodges, of Richmond, Va., read a paper on *The Galvanic Current in the Treatment of Pelvic Pain*, which was a record of favorable experiences with the agent.

Dr. R. M. Slaughter, of Theological Seminary, Va., forwarded his paper on *Abscess of the Liver in Children, with Report of a Case of Amœbic Abscess.* (*See page* 722.)

Dr. James L. Kent, of Bertha, Va., read the Report of a

Case of Long Survival After Injury of the Spinal Cord in the Cervical Region.

The injury consisted in rupture of the posterior common ligament between the sixth and seventh cervical vertebræ.

The cord was normal except for a space of about an inch, beginning opposite the articulation of the body of the sixth or that of the seventh cervical vertebræ, and extending upward to near the origin of the sixth cervical nerves. For this distance, the membranes of the cord were not broken, and showed only slight signs of an old inflammation; but the substance of the cord was of the consistence of thick cream, and extended from the roots of the nerves as they were severed, leaving nothing but the connective tissue and membranes, which formed a thin flabby connection for the two ends of the cord. From the evidence at the time of injury and at the autopsy, it was concluded that the weight of the body was thrown on the forehead in such a way as to lift the sixth vertebræ up and slide it back over the seventh, as there were dirty cuts on the forehead and nose, and the posterior common ligament was torn through while the ligamentum nuchæ was intact. The patient lived seven weeks after the injury.

A paper by Dr. Charles M. Blackford, of Lynchburg, Va., on *The Pathology and Treatment of Gonorrhœa*, was read by title, and referred to the Committee on Publication.

A paper by Dr. Joseph A. White, of Richmond, Va., on *Eye Troubles in their Relation to Diseases of Other Organs*, was read by title, at the request of the author, and duly referred.

Honorary Fellow, Dr. George Tucker Harrison, of New York, read a paper on the *Symptomatology, Ætiology and Treatment of Endometritis.* [Notes of paper not yet received.]

Honorary Fellow, Dr. Joseph Taber Johnson, of Washington, D. C., was greatly pleased to hear the paper by Dr. Harrison, which showed extensive study and elaborate research. Endometritis occupies a middle ground in the practice of gynæcologists between surgery and medicine. Having many causes for its own existence, it also occupies a causative relation to many of the pelvic troubles that fall to the care of the gynæcological surgeon. It may be caused by irritants entering through the vagina, by injuries occurring to the walls of the uterus itself, as by acute flexions or versions, and by irritants coming from above through the tubes, as pus from abscesses, etc. Endometritis in virgins is not unfrequently due to colds, unrelieved congestions due to drafts of air, imprudent bathing, etc.; but by far the most frequent cause of endometritis that comes under the care of the doctor is gonorrhœa—either recent or remote. While

Noegerath went too far in saying that gonorrhœa in the male is never cured, and that the husband who has had gonorrhœa is always dangerous to his wife, still we do often find cases that keep us reminded of his dictum. It is undoubtedly true that gonorrhœal endometritis is the most common cause of the terrible pus cases that the gynæcologist has to deal with. Emmet truly says that it is not so much the character of the germs that are taken out of the abdomen as those that are put in.

All female pelvic surgeons are rightfully afraid of gonorrhœal germs. Gynæcologists have made a decided advance in studying out the causes of endometritis, but patients are afraid of the treatment recommended—they rotate from doctor to doctor. Chronic cases are often cured by dilatation, antiseptic curettage of the cavity, and then packing it with iodoform gauze, which also serves as a drain. Polk shows many cures by this method. The operation is not always so simple as the directions might suggest. An essential element of success is always to see that the vagina is made and kept aseptically clean. In "soggy cases," there appear to be no cures except by hysterectomy. If the uterus is not removed, experience generally shows that septicæmia goes on. If there be chronic infectious endometritis, remove all of the uterus. If hysterectomy is deemed too radical a measure, then we may resort to the currette and pack the uterine cavity with iodoform gauze; and make an opening through the wall of the posterior cul de sac, and with the finger tear out the soggy matter. Dr. Johnson has successfully operated in a number of such cases, by opening the posterior upper vaginal wall and pulling out such masses as would be apt to be broken up by jars, coughing, etc.

With reference to a remark by Dr. Harrison in concluding the discussion, to the effect that Dr. J. Marion Sims was the first to use the currette for gonorrhœal endometritis, Dr. Edwards stated that he had understood that Dr. J. Herbert Claiborne, of Petersburg, Va., enjoyed that honor; and as Dr. Claiborne was present, he would like to hear from him with reference to this point.

Dr. Claiborne responded by detailing the occasion for his practice and the date, which antedated the original publication of Dr. Sims on this subject.

Dr. Thomas J. Riddell, of Richmond, Va., exhibited a counterfeit coin the size of a silver dollar which a man had accidentally swallowed, and which passed through the bowel

in the course of a few days, without giving rise to any material sign or symptom while it was in the intestines. It gave rise to a little pain when it was passed in a fæcal mass, but no bad effect followed.

Routine work was gone through with, the banquet announced, to begin at 10 P. M., and the session adjourned.

Book Notices.

International Clinics. Edited by JUDSON DALAND, M. D., Philadelphia, Instructor in Clinical Medicine and Lecturer on Physical Diagnosis in University of Pennsylvania, etc.; J. MITCHELL BRUCE, M. D., F. R. C. P., London, England, Physician to, and Lecturer on the Principles and Practice of Medicine in Charing Cross Hospital; DAVID W. FINLAY, M. D., F. R. C. P., Aberdeen, Scotland, Professor of Practice of Medicine in University of Aberdeen, etc. Vol. IV, *Fourth Series*, and Vol. II, *Fifth Series, 1895.* Philadelphia: J. B. Lippincott Co. 1895. 8vo. Cloth. Pp. 364 and 350 respectively. Price per volume, Cloth, $2.75; Half Leather, $3. (*Sold only by subscription.*)

For the young doctor and the student practitioner, this "quarterly of clinical lectures," containing something in each issue on each of the divisions of practical medicine, surgery, obstetrics, etc., is one of the most valuable helps published. Every one knows the value of well-prepared clinics, for practitioners are always crowding the polyclinic and post-graduate colleges where material is abundant and teachers are competent. Right next to attendance on such lectures is the proper study of such a book as that now under notice. The authors are mostly of international fame; their subjects relate to the every-day occurrences of practice, and the variety is shown by the fact that each volume has about forty or more lectures. We look upon these *Clinics* as so serviceable and instructive that we anxiously look for the coming issue as soon as the one received has been read and marked as to the special lectures that may be of permanent use to us. The general scope of this "quarterly of clinical lectures" by Professors and Lecturers in the leading medical colleges of the United States, Germany, France, Great Britain and Canada is all that our space permits us to give—especially as we so regularly have described this important quarterly. But he who takes our advice in becoming an annual subscriber—$11 a year—will never regret it. Diagrams and photo-engravings, and colored drawings approaching in representation the reality, are freely introduced.

Introduction to Pathology and Morbid Anatomy By T. HENRY GREEN, M. D., F. R. C. P., Physician and Special Lecturer on Clinical Medicine at Charing Cross Hospital, etc. *Seventh American from Eighth English Edition Revised and Enlarged* by H. MONTAGUE MURRAY, M. D., F. R. C. P., Physician to Out Patients and Lecturer on Pathology and Morbid Anatomy at Charing Cross Hospital, etc. *Illustrated by 224 Engravings.* Philadelphia: Lea Brothers & Co., 1895. 8vo. Pp. 598. Cloth. $2.75.

"Green's *Pathology*" is the text-book of the day—as much so almost as Gray's *Anatomy.* The present edition is issued just in time for adoption by colleges beginning their courses. The great advantage of this edition consists in the addition of several new sections and the thorough revision of several of the old ones. Besides, 60 new illustrations and a colored frontispiece have been added, so that altogether we have now a text-book fully up to date in the record of fact, and so profusely illustrated as to give to each detail of text sufficient explanation to be easily understood by the pupil as well as teacher. But, beyond this, the work is an essential to the practitioner—whether as surgeon or physician. The day is past when the doctor is simply to prescribe for symptoms—his best work is done when he knows the cause and foresees effects, or understands the changes of disease. The work is too familiar to the profession to call for further description. It is the best of up-to-date English speaking text-books.

Manual of Obstetrics. By A. F. A. KING, M. D., Professor of Obstetrics and Diseases of Women in Medical Department of Columbian University, Washington, D. C., and in the University of Vermont, etc. *New (6th) Edition.* 12mo. 532 pages. *With 221 Illustrations.* Cloth, $2.50. Lea Brothers & Co., Publishers, Philadelphia, 1895.

So thoroughly well does Dr. King present the essentials of obstetrics, that there is scarcely any wonder that the book is as popular as it is. Originally designed as the synopses of lectures for his classes, the first edition was published in 1882, and proved to be exactly what was wanted by doctors and students. The present edition is nearly 100 pages larger than the fifth—owing chiefly to the addition of 71 illustrations, which very greatly improve the work. Nearly every subject connected with obstetrics, treated of even in the encyclopædic works, is synoptically treated in this Manual. So that it must continue to be the popular handbook for the practitioner. The subjects are all made easily accessible by the excellence of the index. We most heartily commend this work as the students' guide book, as well as the one needful in general practice.

Text-Book of Practical Therapeutics, *with Especial Reference to the Application of Remedial Measures to Disease, and their Employment upon a Rational Basis.* By HOBART AMORY HARE, M. D., B. Sc., Professor of Therapeutics and Materia Medica in Jefferson Medical College, etc. *Fifth Edition. Enlarged and Thoroughly Revised.* Philadelphia: Lea Brothers & Co., 1895. 8vo. Pp. 740. Cloth, $3.75; leather, $4.75.

Scarcely five years ago, the first edition of Hare's *Practical Therapeutics* was issued; now we have the *fifth* edition before us. What book has enjoyed so great popularity? It is adopted by many colleges as the text-book; but its great—its special—value is to the practitioner. Only 21 pages compose Part I, devoted to General Therapeutic Considerations, including such subdivisions as modes of action and of administering drugs; dosage; idiosyncrasy; absorption, duration of action and strength and reliability of drugs; indications and contraindications and definition of classes of drugs; combination of drugs for joint effect; incompatibilities; and table of classification of drugs. Part II is taken up (319 pages) with drugs, alphabetically arranged. After description of the drug, its physiological and toxic action, its therapeutic uses, etc., are given. Then Part III, relating to remedial measures other than drugs, food for the sick, etc. Part IV (252 pages) is taken up with the therapeutics of a long list of diseases named alphabetically, tables of doses of medicines, of relative weights and measures, index of drugs and remedial measures, and index of diseases and remedies. The work is well revised, with additions of drugs believed to be valuable, up to the date of issue. It is an admirable, useful, *practitioner's* work on Materia Medica and Therapeutics.

Exercise and Food for Pulmonary Invalids. By CHARLES DENISON, A. M., M. D., Professor of Diseases of the Chest and Climatology, University of Denver, etc. Denver: The Chain & Hardy Co., 1895. 12mo. Pp. 71. Flexible Cloth. Price, 35 cents.

No one who has studied the subject can deny the preventive and curative value of proper exercise and selected food for the consumptive. Dr. Denison has grown into eminence as an author on such subjects. His reasonings are good, and the records of his vast special practice sustain the proven side. The work tells how the weak-chested should exercise—the text being supplemented by a number of illustrations. The physician would do well to put copies of this book in the hands of patients in order that sensible lessons might be taught. $3 per dozen to doctors.

Editorial.

Medical Society of Virginia.

We have so much overrun our space in reporting some of the papers and discussions, that we have to defer the publication of other papers until the next issue, and we are furthermore compelled to curtail comments. Too high an appreciation cannot be expressed of the cordial and sumptuous entertainments provided by the doctors of Wytheville. The banquet was unique, magnificent, and most heartily enjoyed. The business matter that seemed of most interest was the election of a lady member. This is the first time the Virginia Society has been called on to act on such a question. The North Carolina Society admitted its first female member in 1885; West Virginia in 1887; and in these, as well as in the Maryland, the Kentucky, the Alabama, the Georgia, the Florida, and other Southern States Societies, women doctors have since been regularly admitted on application for membership on the same conditions as those that apply to the admission of men. Thus the Virginia Society appears to be one of the last of the State Societies of the United States that has been called on to act on the question. The almost unanimous vote by which the first female applicant for fellowship in the Virginia Society was elected settles the question as to the position to be occupied in Virginia by properly qualified women doctors.

As to the scientific features, most of the papers and discussions were excellent; some were masterly, and would give value to the *Transactions* of a national medical organization. Virginia cannot bring together in authorship or discussion abler men than most of those who participated in the recent proceedings. The interest taken and the value of the contributions of the non resident Honorary Fellows in attendance are matters for congratulation by the Society.

In another editorial, we attempt to give prominence to a paper which is of humane interest to all citizens. To establish "colonies for epileptics," etc., would prove, in the course of time, of the greatest value to the scientific study of that dreaded affliction in any household. We trust that doctors everywhere will so continue to call the attention of lawmakers to this important subject as to lead them, in their ensuing legislatures, to make suitable provision for these unfortunates of their States.

The retiring President, Dr. Robert J. Preston, of Marion, Va., made a most zealous and efficient officer. The Presi-

dent-elect, Dr. Wm. L. Robinson, of Danville, needs no introduction to the State or Southern profession. He is at work for the interests of the Society, and that means a profitable session next fall in Danville, Va.

Public Care of Epileptics and Inebriates.

Virginia, like every other Southern State since the Civil War, has been in such a depressed financial condition, that many of her poor and afflicted subjects have necessarily suffered to some extent; still, a wonderful work of charity and benevolence has been done throughout our sunny Southland. We point with pride to our public charitable institutions everywhere. For lack of means, they are not as handsomely equipped as are similar institutions in more favored sections, but they are doing a grand and noble work for afflicted humanity.

By private philanthropy and through the generous acts of our Legislatures, provision has been made for the care and treatment of the insane, the poor, and other defective classes. There are, though, other unfortunates whose needy, deplorable condition demands relief. We allude particularly to the *epileptics* and the *inebriates*. Many of the latter could be restored to health and usefulness or saved from disgrace, or from being victimized by such money-making humbugs as the "Keeley cure" has proved to be, if the States would provide institutions of some kind where patients could receive scientific treatment. North Carolina has already established a department for inebriates in connection with one of her hospitals for the insane.

Whatever our sympathy may be for any other class of unfortunates unprovided for, *epileptics* appeal most to our sense of pity. They are generally a heavy expense to their respective families, and in many instances have to be protected from injuring themselves, etc. Suicide and crime may doubtless sometimes be attributed to epilepsy. The alleviation of this particular class is the one great charitable act, in regard to which this generation has been remiss. Strange to say, there was not, until recently, any systematic attempt made to give them the attention their condition demanded and which a humane spirit suggests. There was no suitable retreat to which these poor sufferers could resort. Only a few of the wealthy ones could gain admission to private hospitals; consequently, many drifted into pauper institutions or insane asylums.

It is gratifying to know that the subject of public care of epileptics is being agitated, and that physicians, as well as

law-makers, are beginning to recognize their duty in this matter.

Dr. William Francis Drewry, of the Central State Hospital, read, at the recent meeting of the Medical Society of Virginia, a paper on the "State Provision for Epileptics," in which he advocated that most sensible and practical method of relief, known as the *epileptic colony*. The Society put its seal of approval upon this humanitarian project, and elected a committee to present the subject to the next Legislature, and to urge that body to take some steps looking to the establishment of a farm colony for this class of dependents. Colonies or hospitals for epileptics are no longer experiments, for they have been tried with satisfactory results.

While the farm colony, conducted on an industrial basis, appears to us to embody the essential requirements for the proper management of a large number of epileptics (and there are no less than 1,500 in Virginia who need institutional care), representing every type of the disease, we are not wedded to that or to any other particular method. If the central idea to have something done for the amelioration of their pitiable condition could be accomplished, there would be no difficulty in settling upon a satisfactory plan of some sort. That they be separated from other patients, and be treated in institutions specially for them, is an urgent necessity. If all the epileptics now confined in the various institutions for the insane, and for paupers, were removed to a hospital equipped for them alone, where a proper classification could be maintained, all classes would doubtless be benefited. We entirely agree with Dr. Drewry when he says: "Every principle of humanity and justice revolts against the indiscriminate commingling of lunatics, paupers and epileptics in the same institution."

In making public provision for any class of dependents, the question of expense is a great consideration. The colony system of care of epileptics, would, it appears, be the most economical. Those in position to know, say the epileptic colony in New York, and the hospital for epileptics in Ohio, will realize so much from the labor of the beneficiaries, that these institutions will, in a few years, become almost self-supporting.

Even if it should require a considerable amount, the expenditure should be incurred as a high and holy duty to these people. The care of epileptics is receiving attention in several of the States, and the medical profession of Virginia appeals to its law-makers to do something for the mitigation of their suffering.

The Army Medical Board Meeting.

We regret that we did not receive notification in time to make it useful to our readers that a notice was issued by the Surgeon-General U. S. Army, asking persons desiring to present themselves for examination by the Army Medical Board to make application to the Secretary of War before October 8th for the necessary invitation, giving date and place of birth, the place and State of permanent residence, the fact of American citizenship, the name of the Medical College from which they were graduated, and a record of service in hospital, if any, from the authorities thereof. For further information, address the Surgeon-General.

Dr. Irving C. Rosse, of Washington, D. C.;

Was elected Vice-President of the recent Msdico-Legal Congress, and presided at one of the meetings early in September. He stands as an expert in nervous and mental diseases. The record of Dr. Forbes Winslow respecting the great range of his expert testimony would seem to be equalled, if not surpassed, by that of Dr. Rosse.

Information Wanted About Coca Cola Habitues.

Dr. R. R. Kime, 63½ Whitehall Street, Atlanta, Ga., desiring to find to what extent coca cola habitues are developed by the use of coca cola as a drink, asks for letters from physicians who have treated such cases—stating age of patient, sex, and amount drunk daily, etc.

New Orleans Polyclinic.

The first term of the Ninth Annual Session will begin March 2d, 1896, and the second term will begin April 15th—each term lasting six weeks. We congratulate the able Faculty on the announcement that their new building will be completed in time for the session.

Dr. Robert Battey, of Rome, Ga.

As we go to press, the newspaper telegrams announce the death of this great physician, who so lived as to leave the impress of a good man upon all who knew him.

Dr. John Collins Warren,

Professor of Surgery in Harvard University, received the honorary degree of LL. D. by a recent vote of the Trustees of Jefferson Medical College of Philadelphia.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 7. WHOLE NUMBER, 259.

RICHMOND, NOVEMBER, 1895.

Original Communications.

Art. I.—The Diagnosis and Treatment of Cholelithiasis.*

By GEORGE BEN JOHNSTON, M. D., of Richmond, Va.,

Professor of Surgery, Medical College of Virginia, etc.

Gall stones occur most frequently in persons above thirty years of age, and are quite rare in childhood. Women are affected four times as often as men, and especially women who have borne children or had abdominal tumors removed. Obesity, tight lacing, and sedentary habits are thought to predispose to gall stones. However, they are traceable either to a too large proportion of solid constituents in the bile or to an obstruction to its flow somewhere in its course through the gall duct. In fact, such obstruction to the flow of bile is probably the chief factor in the causation of gall stones in the majority of instances. Now and then a foreign body may form the nucleus of a gall stone, as, for instance, mucus, needle-points, seeds, fish bone, etc. Around these, concretions crystallize or are deposited. In cases where

* Read before the Medical Society of Virginia in session in Wytheville, September 3–5, 1895.

there is chronic catarrh or recurring attacks of acute inflammation of the duodenum, the inflammatory process may extend up the ductus choledochus and occlude that tube more or less completely, thus impeding the flow of bile and give rise to the formation of gall stone; or the catarrh may extend on up into the gall bladder and there lead to the formation of gall stones, either by the thickened mucus secreted forming nuclei for the accretion of the solid and crystallizable constituents of the bile, or by the mucus mixing with the bile and changing its fluidity or its solvent power for the biliary salts.

In a large majority of cases of biliary calculi, symptoms are entirely absent, or, at least, are only such as are attributable to the conditions which cause the gall stones. Dr. Murphy says: "It is estimated from the results of post mortem examinations that 10 per cent. of adults of the human race are affected with gall stones." He believes that one case in ten, in which gall stones are present, has symptoms produced by them. So long as the gall stones remain at rest in the gall bladder, or produce no inflammatory changes, there will be no symptoms which we can at present positively charge to them. Digestive disturbances, when present, are readily attributable to the duodenal catarrh, to the presence of an abdominal tumor or a pregnant uterus, or to whatever is the abnormal condition which leads to the formation of the gall stone

The *symptoms* upon which we base a diagnosis are produced when a gall stone is lodged in the mouth of the gall bladder, or attempts to pass from the gall bladder through the cystic duct and the ductus choledochus into the duodenum. Even here, if the stone is small and its formation recent, so that there are no adhesions among the viscera, and the lumen of the ducts not lessened by the induration and thickening of their walls, the symptoms may be so mild as to produce only a passing indisposition. There may be colicky pains more or less severe in the anatomical region of the gall bladder, lasting but a short while. The attacks of pain may recur with greater or less frequency

for weeks. This recurrence is due to the passage of successive gall stones. If the passage of gall stones be suspected, their presence can be demonstrated by washing the fæces through a sieve. The success of this effort requires great watchfulness and perseverance. The symptoms upon which we most rely to establish the presence of gall stone are usually, however, of a graver character, and are such as arise from obstruction, either partial or complete, of the biliary tracts.

In making a *diagnosis* of gall stones, the history of the case is of great value. The age, the sex, habits and occupation of the patient are to be considered. After a variable period, during which the patient may have been entirely free from symptoms, but more commonly has been troubled with what appears to be a duodenal catarrh, he or she is suddenly seized with a violent colicky pain in the epigastrium, accompanied by nausea, vomiting and shivering. These symptoms are due to the entrance of a gall stone into one of the ducts. The pain may be of any degree of severity from nil to that which causes profound shock and collapse. This pain, commonly designated gastralgia, may subside in an hour or two or last for a week or more. In many instances the agony is excruciating. The shivering and vomiting are of a reflex character, caused by the shock to the sympathetic system. The paroxysm of pain, which frequently radiates from the epigastrium up towards the right shoulder and down towards the umbilicus, ceases somewhat suddenly after a time, the sessation being due to the passage of the stone into the duodenum or its return into the gall bladder. In either instance, there is commonly an attack of violent vomiting, accompanied by almost immediate relief. If the stone is passed into the duodenum without prolonged detention in the duct, there will be no jaundice. If it is found in the dejecta and is faceted, it is plain that other stones remain. Should the stone not reach the ductus choledochus, but become impacted in the cystic duct, the symptoms will likely continue with greater or less severity, and, in addition, the gall bladder will become en-

larged and tender from retention of its own secretions. Little or no jaundice will ensue. If the stone disengages and recedes into the gall bladder, the symptoms will abate. There will be some tenderness about the gall bladder, but jaundice does not ensue. If, however, the stone becomes impacted in the ductus choledochus, or if that duct is in any way occluded, and the stone forced back into the hepatic duct by the muscular action of the gall bladder and backward pressure, pronounced jaundice will ensue from within twenty-four to seventy-two hours. The jaundice is accompanied by intense itching of the skin, headache, and the presence of bile pigment in the urine Soon after the appearance of jaundice, the stools assume a putty color. These attacks of biliary colic will recur time and time again with varying frequency whenever a gall stone enters or changes its position in any of the ducts. It is now generally conceded that all gall stones are formed in the gall bladder, and such as are found in the ducts have been forced there by the bile current. A diagnosis of gall stones is not uncommonly made before an attack of biliary colic has ever occurred. Such a diagnosis is based upon the symptoms of cholecystitis, which frequently results from infection of the gall bladder, caused by the presence of stones. With infection there is nausea, loss of appetite, furred tongue, pain and tenderness, swelling in the region of the gall bladder, a temperature ranging from 99° to 102° F., with shivering and sweats. The pain, however, is of a different character from that accompanying biliary colic. If suppuration occurs, the aspect of the case is again changed, and the situation becomes more grave.

Usually the diagnosis of gall stones is not difficult. The patient's personal history and the evidences afforded upon physical examination will lead to a discovery of the true nature of the malady in the majority of instances. In a certain number of cases, however, the diagnosis is so obscure as to render exploratory incision necessary. As to differential diagnosis, there are certain other affections which for a time might be confounded with gall stone. Biliary colic

might be mistaken for renal colic, but, in the latter affection, the pain is located in the region of the kidney and radiates down the groin. There is no jaundice; no putty colored stools; micturition is frequent, and the urine scanty and often tinged with blood.

Cancer of the head of the pancreas, or of the gall bladder, lead to symptoms of obstruction, but in these affections there will appear a rapidly progressing cancerous cachexia.

The pain and vomiting of the gastric crises of tabes dorsalis may simulate biliary colic, but in tabes will be found the lightning pain elsewhere and the impaired patella reflex, as well as the absence of a tumor in the region of the gall bladder, the putty colored stools, and jaundice.

In lead colic there is no tumor. The blue line along the gums, characteristic of this affection, and the patient's occupation, furnish sufficient guide to prevent error.

In appendicitis, the tumor is of a different shape and located away from the region of the gall bladder. The seat of tenderness and pain is usually at McBurney's point, and there is no jaundice.

The symptoms of cholecystitis are similar to those of cholelithiasis, but cholecystitis does not cause biliary colic. Moreover, cholecystitis, when severe, is usually caused by gall stones, and a diagnosis of gall stones is not infrequently inferred from the presence of the cholecystitis.

Movable kidney is accompanied by serious digestive disturbances and a palpable, movable tumor, which in many instances cannot be distinguished from an enlarged gall bladder. In movable kidney, there is no jaundice and no putty colored stools; there is more or less constant pain in the lumbar region of a dragging character, aggravated by the erect posture, and attacks of biliary colic are absent.

In one of the cases I report, operated on for gall stone, there was also present a movable kidney. The question of diagnosis in this case resolved itself into one of determining which tumor was the kidney and which was the gall bladder.

Finally, an adhesive peritonitis in the region of the gall bladder may so mat the viscera together as to occlude

the bile ducts, cause jaundice, form a tumor, which cannot be distinguished from a gall bladder distended with stones, and induce all the symptoms ordinarily attributable to gall stones. In such a condition, however, gall stones are often present, and it is an open question whether the gall stones produced the inflammation which caused the adhesion or the adhesions were occasioned by a previously existing inflammation which brought about a stenosis of the ducts, thus impeding the flow of bile and leading to the formation of stone.

The medical *treatment of cholelithiasis* may be dismissed with a word. It consists in the use of morphine administered during an attack of biliary colic. Any attempt to dissolve the stones by the administration of remedies is useless.

The disease is essentially a surgical one, and is only remediable by surgical interference. The preparation of the patient is that which should be practised in every abdominal section. Operators differ as to the incision to be employed. Some prefer a vertical incision, while others recommend a transverse one. The gall bladder is equally accessible by either. Mr. Morrison has demonstrated distinctly the advantages of a transverse incision. He has described a pouch in which the gall bladder lies, which is separated from the general peritoneal cavity by natural barriers. This pouch is easily and efficiently drained, when the transverse incision is practised, by a tube brought out through the side at the lower end of the right kidney. The fact that we may desire to drain should be taken into consideration when determining the direction of the incision.

The incision, which should be an ample one, brings us down upon the gall bladder. In the majority of cases, this will be encased in a mass of adhesions, which should be carefully separated and the gall bladder exposed. We are thus afforded an opportunity both to inspect and palpate the gall bladder and the ducts, and our line of action will be determined by what we then discover. The primary object of the operation is, of course, to remove the obstruc-

tion, and this may be accomplished in one of several ways. If the offending stones are in the gall bladder, and there has been no cholecystitis, no infection, and the walls of the gall bladder are healthy, we may pack about the gall bladder gauze sponges, so as to protect the peritoneum, leaving exposed a field for incision; incise the gall bladder, remove the stone or stones, satisfy ourselves that the bile ducts are pervious, close the incision in the gall bladder by tiers of sutures, return the gall bladder to the cavity, and close the external wound. If, however, there is any cholecystitis, or infection, or an unhealthy condition of the walls of the gall bladder, or the ducts are partially occluded by cicatricial tissue, or swelling of the mucus lining which would render the flow of bile through the duct doubtful, the wound in the gall bladder should be made fast to the skin wound, and the gall bladder treated subsequently by irrigation and drainage. As soon as the inflammation which has occluded the duct has subsided, as it will do under this treatment, the bile will pursue its natural outlet and the fistula will heal of its own accord.

If the gall bladder is in a state of suppuration, its walls very much thickened, the duct occluded, cholecystectomy is demanded.

When the block is in the cystic duct, and it cannot be dislodged either by means of stripping it back into the gall bladder with the fingers or crushing it between the jaws of padded forceps, and the duct is sufficiently accessible, it may be incised and the stone removed through the incision. In this manipulation, it is necessary to grasp the stone between the thumb and finger, incise the duct over it, place the sutures which are to close the incision, then remove the stone and tie the sutures. This procedure greatly facilitates the placing of the sutures

An attempt should be made to close the incision in the duct, whatever may be the condition of the duct or gall bladder. It may be necessary to drain in certain cases of this character; the wisdom of doing so has been abundantly demonstrated by Mr. Morrison.

Obstructions in the common duct are to be treated after the same fashion as those in the cystic duct, namely, by incision, removal, and finally suturing of the duct. The inaccessibility of the common duct, its being buried sometimes in masses of such dense adhesions, occasionally renders it impossible to attack the stone which obstructs it. When such is the case, we have an admirable practice in the performance of cholecystenterostomy by means of the ingenious Murphy button, thus establishing an outlet for the bile into the duodenum near its natural point of entrance. As illustrative of this operation, I mention the following case:

CASE I.—*Gall Stones in Gall Bladder and Common Duct—Cholecystenterostomy—Gall Stone Vomited Six Months Later.*—Mrs H., age thirty-two; married; three children. While in Petersburg in June, 1894, was seized with an attack of biliary colic. I saw her a few days later. Examination discovered two tumors in her right side. One was over the region of the gall bladder, and was pronounced distended gall bladder with calculi. The other was made out as a movable kidney of the right side. She had several attacks of biliary colic during the months of July, August, September and October. Her condition was so wretched that she consented to operation. She went to the Old Dominion Hospital on the 1st of November, and I operated on her on the 3d of November. A transverse incision was made. When the peritoneum was incised, a mass so firmly matted together and indurated as to appear malignant was encountered. A tedious and bloody dissection was required to reach the gall bladder. It was found full of stones. The common duct also contained a stone. A cholecystenterostomy was determined upon. The condition of this patient made it imperative that the operation should not be unduly prolonged. Therefore, when the incision for the button was made in the gall bladder, those stones in the bladder were removed, numbering five, but no attempt was made to extract those which were in the duct. The two halves of the button were joined, the toilet of the peritoneum rapidly made, and the wound closed. This patient rallied promptly from the operation, and nothing worthy of mention occurred until the eleventh day, when two calculi were passed from the bowels. On the fifteenth day two more were passed; on the nineteenth day still another, with

the button. On the twenty-eighth day she was discharged from the hospital greatly improved in health. Her jaundice had disappeared; the stools were normal in every particular, her digestion excellent; she was sleeping well, and had gained much in flesh.

In June of this year I was called suddenly to see her. I found her suffering a distinct attack of biliary colic; the pain was relieved by morphine. During the vomiting which ensued, she ejected a facetted calculus, and at once all symptoms subsided. I am convinced that this was the stone lowermost in the common duct, and that when all inflammation had subsided and the walls of the duct shrunken sufficiently to allow it to move, it made its way out into the duodenum, producing this mild attack of colic as it was emerging through the final barrier. Her health since has been as good as ever in her life.

As brilliant as have been the achievements of surgeons in operations upon the gall tract, much is yet to be learned. The advances of the past few years have been so pronounced that we have reason to hope for even better successes than have been gotten up to this time. The next half decade will allot to each operation its exact place in surgery, and definite rules for their application will be formulated. There are instances in which the performance of an operation for the relief of biliary obstruction are to be avoided, if possible—for instance, in the presence of severe cholæmia. We all know how unfavorable this condition is, and yet occasionally we must either interfere or else resign the case to its fate. Cholæmic patients are most unfavorable cases for the performance of any surgical operation, and yet an attempt to rescue is not only justifiable, but demanded, as the following case will show:

Case II.—*Stones in Gall Bladder and Common Duct—Repeated Attacks of Colic, Cholecystitis and Local Peritonitis—Cholecystotomy and Drainage.*—Mrs. B., age fifty-nine; widow; mother of several grown children. Until ten years ago had excellent health. At that time had an attack of peritonitis; health never robust since. Two years ago began to have hepatic colic. These attacks were not severe or very frequent at first. In September, 1894, while visiting in a remote part of the State, was taken desperately ill; was greatly prostrated and suffered much with pain in her right

side. At this time she had no distinct attack of colic, but there was great tenderness and exquisite soreness in the region of the gall bladder. After two or three weeks, the attacks of colic returned at irregular intervals of a few days. She came to Richmond and was placed under my care in October. I found her anæmic, very nervous, loss of appetite, profoundly jaundiced, bowels constipated, and with marked indications of local peritonitis, complicating cholecystitis. The greatly distended gall bladder could be easily palpated, but it was evident that part of the mass was due to the inflammatory thickening around the gall bladder, a condition said to be present in at least sixty per cent. of all operable cases.

The diagnosis was gall stones in the bladder and obstructing the common duct, cystitis and local peritonitis. The patient's condition was so extreme that an operation at this time was not justifiable. Under appropriate treatment, she grew better, and in six weeks was able to walk and take short drives. She did very well during the winter, but her symptoms all became aggravated in May. She rapidly lost flesh; her appetite entirely failed; she was unable to sleep; suffered much from nausea and vomiting; there was extreme tenderness over the right hypochondrium. The jaundice was the most aggravated I have ever seen, and she was in a state of advanced cholæmia.

In June of the present year, she was taken to the Old Dominion Hospital for operation. A transverse incision was made; the peritoneum was much thickened and adherent to the mass in which the gall bladder was incorporated. A tedious dissection was required to expose the gall bladder. So numerous were the adhesions, and so firm, that the ducts could not be exposed. Palpation of them through their surroundings revealed the presence of a stone in the common duct, and likewise one in the cystic duct. A cholecystenterostomy was thought of, but the duodenum could not be segregated. A cholecystotomy was then determined upon; the gall bladder was brought into the wound, stitched there, the wound packed with iodoform gauze, which was allowed to remain for four days. At the expiration of this time the gall bladder was opened. Large quantities of mucus and bile flowed out. The gall bladder was irrigated and the drainage tube inserted. The ample dressings were copiously saturated by the flow from the fistula for many days.

Her general condition began almost at once to improve. The skin and conjunctivæ cleared up rapidly and the itch-

ing, which had been so annoying, subsided. At the expiration of ten days, she expressed herself as feeling better than she had done for two years. Her appetite became enormous, and she was permitted to partake of a liberal diet. She slept well and was very cheerful. No attempt during her stay in the hospital was made to remove the stones, because it soon became apparent that the drainage of the gall bladder had brought about a partial reduction of the obstruction, and much of the bile was flowing around the stone and into the duodenum, as was made apparent by the change in the character of the fæces. In four weeks she was discharged from the hospital. Her general health is excellent and the fistula almost closed, discharging now very little bile.

It may be that I shall at some future time make another attack upon this obstruction, but at present her situation is so vastly improved over what it was, that she would not consent to any kind of interference.

407 *East Grace Street.*

Art. II.—The Treatment of Intermittent Fever.

By WALTER M. FLEMING, M. D., New York, N. Y.

Before the discovery of the tubercle bacillus, many a cough was allowed to continue without treatment, and the real difficulty not suspected until a sharp hæmorrhage or a hectic fever revealed the true situation. Only a few months ago, diphtheria patients walked the streets with a simple sore throat, while cases of follicular tonsillitis were carefully treated as diphtheritic in character. Nearly all of us were taught that malaria was an earth-born poison which filled the air with "a fever-generating agent."

Now, all this is changed. The tubercle bacilli can be detected in the earlier stages of phthisis. The Klebs-Loeffler bacillus decides the presence of diphtheria; and the malarial germs of Laveran tell us we have an intermittent fever.

It is natural that we look for a remedy which will destroy these germs or counteract their poisonous products. Indeed,

it now appears that we have, unconsciously to be sure, been giving a perfect specific for the cause of the latter disease. Quinine is no longer administered in an empirical manner. We know precisely why we give it and what it does. Quinine exerts a deathly influence over the malarial germ; therefore, it may be given with the satisfaction of knowing that it will invariably check the paroxysms of an intermittent fever. If its use is not followed by this cure, then it is certain that it never came in contact with the red corpuscles of the blood. Absorption was incomplete, or the quantity of the drug was insufficient. In the light of all this, it is certainly bordering on the ludicrous that the *National Dispensatory* should give a list of seventy-six remedies in the index under "Intermittent Fever."

The patient has usually had a malarial paroxysm before seeking medical advice. As hepatic activity is necessary to obtain the best effect of the specific treatment, so, in cases of constipation at least, it is better to begin the treatment with the following prescription, which should be taken five or six hours prior to the quinine:

℞ Hydrarg. chloridi mitis,
Sodæ bicarb ..... āā gr j
M.—Divide into six powders.
Sig.—Take one powder every fifteen minutes, using all the powders.

This is far preferable to giving the calomel in one single dose and in larger quantity. However, it may be necessary, if the patient is insensitive to purgatives, to increase the quantities named in the prescription by one-half. While this preparatory treatment is not necessary, yet it is certainly true that after its employment a less quantity of quinine is required and the general condition of the patient is improved.

It has been stated that this treatment should be given five or six hours before the specific treatment. It should now be said that the latter treatment is best inaugurated at such a time that it will be exerting its fullest physiological action when its next paroxysm is due. This time can be

quite accurately stated when we remember that a paroxysm often begins an hour earlier than the preceding one, and that about three hours are required for the quinine to be in its most active condition in the body.

To insure prompt and complete absorption, the quinine is best given in liquid form. The following is a favorite prescription:

℞ Quiniæ sulph..... grs. xv
Aquæ... ..... ℥j
Acid. sulph. dil., q. s. ft. sol.
M. et. Sig.—Take at one dose in one-third glass of water.

With the above preparatory treatment, and with the quinine dissolved, this dose is equivalent to at least twenty grains given after the usual manner, while it is certain we should not trust to pills or capsules at such a time unless we know positively that these are in a perfectly soluble condition.

To prevent the uncomfortable head symptoms which accompany full doses of quinine, and also to relieve the pain which is likely to be present at the same time of the expected paroxysm, the following prescription should be given four or five hours after the specific:

℞ Antikamnia tablets (5 grs each), No. xxiv.
Sig.—One tablet every two hours while pain necessitates.

While the above dose of quinine is sufficiently large for residents of most parts of the United States, yet in some of the Southern States, and in other sections where malaria abounds with unusual force, it may be necessary to give the quinine as high as twenty, forty, or even sixty grains. But in the great majority of cases, the above single dose will be sufficient to prevent a second chill.

In order that there may be no question about the recurrence of an attack, and also in order to bring the system under the influence of a good tonic, the quinine should be continued for one or two weeks in doses of 5 to 10 grains a day. As the malarial germ has left its effects on the nervous system, and often to a marked degree, so a remedy is

indicated which will put at rest the disturbed condition. The following will be found satisfactory in every way:

℞ Antikamnia and quinine tablets 5 gr. each, No. xxiv.
Sig.—One tablet three times a day after meals.
(This tablet contains 2½ grains sulphate quinine and 2½ grains antikamnia, being the most desirable proportion.)

If the physician be called while the patient is suffering from a paroxysm, and he is in doubt as to its nature, he has only to remember that any intermittent fever which resists the action of quinine is not necessarily of malarial origin. Even during the chill of a malarial attack, the temperature may rise to 102° or higher, while it is often true that when the chill has passed and the fever is on, the thermometer will show a lower degree of heat. Therefore, no better treatment can be given at the beginning of or during the chill than the following:

℞ Antikamnia tablets, 5 grs. each, No. xxiv.
Sig.—Take two tablets immediately. Repeat dose in two hours if pain necessitates.

The antikamnia will relieve the congestion of the abdominal and thoracic organs, and will materially alleviate the headache of the second stage especially. In fact, it practically robs the fever of its most distressing features.

When we consider that the cause of intermittent fever is so thoroughly understood, and that quinine is regarded as its specific, destroying said cause, how puerile are all attempts to bring forward new substitutes. Although pain may not be dependent upon any special living organism, yet it is certain that in antikamnia we have a most reliable specific.

In regard to the treatment of all forms of febrile maladies, periodic or continued, I have found the antikamnia tablets with its various combinations of codeine, salol or quinine (as indicated in each individual case), the most reliable, prompt and satisfactory remedies in controlling these intractable disorders of any remedial agent known to me in a general active practice of over thirty years.

240 *Fifth Avenue.*

Art. III.—Introductory Lecture to the Class of 1895-96 of the Baltimore Medical College.

By GEORGE REULING, M. D., of Baltimore, Md.

Professor of Ophthalmology and Otology.

Gentlemen,—I deem it a great pleasure and privilege to extend to you, on this opening night of the session of 1895–96, the greetings of the Faculty of the Baltimore Medical College, and to say a few words to you regarding the study of your chosen profession, and the advance it has made in this the most progressive of all centuries.

A young theologian was once asked whether he could explain why the patriarchs of the Old Testament lived to such remarkable old age, and he promptly replied, because there were no doctors in those days. Now, gentlemen, this young man did not know history at all, for otherwise he would have known that medicine existed before the old patriarchs, and that their long lives were rather due to their exemplary mode of living, and that the shorter life of later generations was due to the many and varied over-indulgences which unfortunately an advanced civilization carries in its trail. How highly developed medicine, and especially surgery, have been in ancient times, has been clearly proven by the discovery of a papyrus found by Ebers, the great Egyptian scholar, during his excavations near Luxor, and which dates back 3,000 years before Christ. In this roll of antique parchment, minute descriptions for the treatment of granular conjunctivitis, this scourge of Egypt to the present time, as also the operation for cataract, the method of rhinoplasty, and even drawings of various ingenious surgical instruments were found.

So you see medicine is as old as history itself, and instead of speaking to-night to an assembly of life-shorteners, I am proud to address a gathering of enthusiastic young disciples of Æsculapius, who no doubt are determined to enter the study of a most interesting, but also a most difficult and most responsible science, with all the zeal and earnestness

which only a true love for its cause, dedicated to humanity, can kindle in your hearts and minds.

To enter upon so great a task, you should be well prepared, mentally as well as physically, for an intelligence of a moderate order will never master this multiform science, which draws its resources from almost every known district of intellectual research, and from the exact observation of nature in all its kingdoms. Neither can a weakly constitution safely attempt the study of medicine, which necessarily demands a high tribute on the mental and physical apparatus of the student, and especially on the physician in active practice. A well-equipped candidate for medical study should therefore be, in the first place, healthy and bright. He should bring with him a well-trained mind for the proper understanding of his medical studies. He should, besides his English education, know a fair amount of Latin and Greek for the recognition of the etymology of medical terms, which are all taken from these two languages, and he should know enough of physics and the natural sciences as to understand the chief classification and terminology in botany, zoology and mineralogy. Without this knowledge, the difficulties of a medical education are almost insurmountable, and many of the medical laws in their relationship to each other are neither appreciated nor understood.

This amount of preliminary knowledge is the least that could be demanded at present, and I see already the time approaching when the passport to our medical schools will be a certificate of graduation from a well-appointed college, where classics are taught during a period of five years, and mathematics and physics occupy a high place next to literature, history and natural sciences. Modern medicine, with its vast resources in the domain of chemistry, microscopy, physiology and biology, cannot be mastered any longer by a crude, untutored mind; and while we may admire the successful struggle and finally achieved triumph of a well-passed final examination of a student coming from the farm or the country store, we cannot deny ourselves the contemplation of how much valuable energy has been wasted in

this struggle, and how much more this candidate would have accomplished had his mind received a collegiate training in early youth. This preliminary training brightens the interest in the study of medicine to an intensity amounting to actual enthusiasm; and it is this enthusiasm, gentlemen, this love for your intensely interesting studies, which must take possession of you to insure success in your life-work as modern physicians. This enthusiasm will lead you to a higher plane of intellect; it will sharpen your desire for scientific research, and the investigation of such questions which are yet unexplained, and it will also guard you against a purely mercenary spirit, which, after having satisfied the examining board, is absorbed in the pursuit of the almighty dollar exclusively.

Do not think, for a moment, gentlemen, that with your graduation as M. D. your medical studies have ended. On the contrary, they should then begin with renewed vigor, especially in those branches in which you prefer to practice more specially. A physician who ceases to study deteriorates rapidly, and finds himself in these progressive times only too soon outdistanced and forgotten. In addition to his interest in his studies, a physician should have a sympathetic temperament. He should not look upon his patients as clinical material only. An indifferent or careless manner will soon wound the feelings of your patient. You should combine friendliness with your professional interest in your patient, and a little encouragement will make a life-long friend in a case of despondency.

Gentlemen, you are beginning your studies in a period of time in which the science of medicine has achieved the greatest advance in its history. Marvelous progress has been made in the present century, which is chiefly characterized by the strict law of unbiased observation, and by the total departure of all philosophical speculation, which for centuries held sway over this science of medicine. All philosophical doctrines which have followed each other through at least three centuries, have not done as much for medicine and surgery as a few logical observers who have

brought medicine into intimate relation to the natural sciences by simply and only accepting what they could perceive with their five senses, and could explain on the basis of logical thought, and thereby ripened the fruit of its present marvelous development. Von Liebig, the father of organic chemistry and elementary analysis: Helmholz, the great physiologist; Morton and Jackson, the discoverers of the anæsthetic qualities of ether in this country, and Simpson, of Edinburgh, the discoverer of chloroform anæsthesia; Dupuytren and Dieffenbach, in their marvelous surgical achievements; Skoda and Oppholzer, the originators of physical diagnosis; Virchow and Rokitansky, the founders of microscopical pathology; Alfred von Græfe, the creator of modern ophthalmology; Marion Sims, the great gynæcologist; Lister, the originator of antiseptic surgery, and Koch and Pasteur, the great representatives of bacteriology, and many others, have lifted medicine from a speculative science into one of almost mathematical exactitude. Their labors, in finding the practical application of scientific truths, have been mostly on the lines of laboratory investigation, based on physiological and chemical facts. Indeed, chemico-physiological research has been likened to a river continually gaining volume, force and extent as it rolls onward to its destination—the health, happiness and welfare of the human race. The importance of a thorough knowledge in chemistry may be demonstrated to you by the fact that, by the advance of elementary analysis, we have succeeded in synthetically producing most of the alkaloids, as acting principles of certain drugs, by which the modern pharmacopœia has been greatly enriched, especially by valuable agents which have been derived from the coal tar products, such as salicylic acid, salol, phenacetin, antipyrin, acetanilid, sulfonal, and others. In the laboratory of the human system, alkaloids are constantly manufactured. Only recently a Russian physician, Menznicoff, has discovered an alkaloid in the urine of certain patients which, in combination with chloroform, formed

a deadly poison, so that its presence formed a contra-indication to the administration of chloroform as an anæsthetic.

Through experimental physiology we have learned the accurate action of drugs, the true nature of tubercle, and the part played by its bacillus; the methods by which rabies are produced and cured, and also the location of the brain-functions, so that diseases of the brain which were considered beyond the reach of medical and surgical aid, are now amenable to successful treatment by the surgeon's knife.

The study of anatomy is all-important to the medical student. Both anatomy and physiology may be considered the alphabet of medical science, without which pathology could not be appreciated. Before we enter upon the study of the diseased tissues, we should, of course, know their appearance and relationship to each other in the healthy state. A careful observation of physiological processes discloses that nature constantly provides safeguards, which, unless overpowered, are sufficient to protect us from disease. As the sources of disease are ever with us, subjecting each of us to an equal exposure, our capacity to resist encroachment must necessarily depend on the perfection of our defences. If, for example, we take the lungs, it will be found that with every inspiration the air carries microbes, which, upon the warm, moist surface of the bronchial mucous membrane, are capable of producing harmful chemical substances. These harmful substances produce a characteristic disease, which would claim everybody for its victim if the organism was not subject to the provisions that we have constantly in the phagocytic action of the leucocytes, elements which destroy and digest any microbes with which they may come in contact, and thereby act as safeguard against disease.

You undoubtedly have heard of the wonderful progress modern surgery has made by the antiseptic and aseptic methods. The greater safety and more accurate results obtained through the scientific standard of Listerism have greatly widened the field of surgery, and operations are now performed which only ten years ago were considered beyond the pale of justifiable experiment. In no direction does this

seem more marked than in the realm of abdominal surgery. Prior to the procedure of antisepsis, the opening of the peritoneum was only done in Cæsarean section, and with most destructive results, so that students in those days were raised in fear of the Lord and the peritoneum.

In my capacity as your instructor in eye and ear diseases, I feel it my duty to dwell for a few minutes on the importance of the study of these special branches, and especially on the position which ophthalmology occupies towards medicine, surgery and gynæcology. Locally considered, we must admit that the organ of sight is of very small dimensions. With its capacity of thirty cubic centimetres, more or less, it amounts to hardly the one two-thousandth part of the body, and is therefore much smaller than many organs whose study do not call for a special chair in the faculties of our medical schools. Why this should be so, is easily explained, if you contemplate the relations between the organs of sight and the various other parts of the body; and further, if you consider that among the organs of the five senses the eye occupies the most important position toward the intellectual as well as material life of man. Its injury influences most deeply the sensitive as well as material sphere, and the loss of eye-sight is, next to the loss of life, one of the most serious calamities that can befall us. There is hardly an injury to the rest of the body known which does not manifest itself sooner or later on the eyes.

The general disturbances of nutrition, for instance, frequently manifest themselves in a decrease of the visual power, which the ophthalmologist often diagnoses to its exact degree and origin long before the clinician has been able to find a palpable explanation, even by employing all modern means for diagnostic research at hand. This advantage is offered by the use of the ophthalmoscope, this plessimeter and stethoscope in one, by which we determine during life whether a normal or abnormal quantity of blood courses through the retinal vessels; whether the relative proportions between arterial and venous blood is normal or pathologic, and whether the appearance of the blood indi-

cates a normal chemical composition; and, further, whether or not the walls of the blood vessels are in a healthy or diseased state. Quite often are we oculists the first discoverers of the presence of Bright's disease of the kidneys, through ophthalmoscopic examination of the retina of patients who complain of weakness of sight long before their attention is drawn toward the primary seat of the disease—the kidneys. And the same remark holds good for the early recognition of diabetes. In this disease, the crystalline lens frequently produces, by a rapid increase of its volume, a sudden state of nearsight, which induces patients to consult an oculist, when, to their surprise, a disease of the general system is discovered, of which they previously had not the slightest knowledge. In leucæmia, hæmorrhages in the conjunctiva, and sometimes in the retina, are often the first symptoms by which this disease is suspected and recognized.

Primary tuberculosis is also sometimes manifesting itself first in the eye. It is also known that trichinosis, a disease caused by the eating of pork containing trichinia spiralis, a most dangerous parasite, a rapid swelling of the eyelids forms generally the first objective symptoms of this terrible disease. The ophthalmoscopic appearance of the retina and optic nerve, the so-called fundus of the eye, frequently reveals the presence of diseases of the heart, the blood vessels and of the central nervous system, so that frequently lesions of the brain are located by the ophthalmoscopic examination. In the various forms of insanity, the ophthalmoscopic characteristics have produced already a considerable amount of medical literature.

In diseases of the middle ear and the mastoid bone, the ophthalmoscope frequently reveals the threatening formation of cerebral abscess by the congested appearance of the optic papilla, and forms, therefore, also in ear diseases a most valuable adjunct.

Also for the gynæcologist, the facts that abnormal position and disturbances in the catamenial phase frequently lead to painful vision, spasms of accommodation, and sometimes to

blindness, should be duly appreciated. Still more important appear these relations between the eye and reproductive organs during the climacterium, when hæmorrhages of the retina and often hæmorrhagic glaucoma appear, in which only the prompt surgical aid, the performance of iridectomy, may save the greatly jeopardized eyesight of the patient. During the period of lactation, severe forms of keratitis and formation of cataract are sometimes observed. It has not unfrequently happened that albuminuric retinitis during pregnancy made the artificial abortion necessary in order to save the eyesight of the patient.

Not only during life, but after death, is the examination of the eye sometimes of value, since the cessation of the heart's action and the blood circulation leads to changes in the retina, which, to all certainty, are proving that death has actually occurred.

These examples, which might easily be extended, must illustrate to you that the most diverse diseases of the general system produce disturbances in the eye which should be known to the physician as thoroughly as other prominent characteristics in medicine, surgery and gynæcology.

Now, young gentlemen, I wish you Godspeed in your chosen work. May you learn to love your medical studies with all possible fervor, and may you prove to be an ornament to the efforts of our faculty, not only during your student-life, but in your career as physicians. Be assured in advance that the faculty of the Baltimore Medical College will carry out its promises to you to the very letter, and that we know of no greater satisfaction and pleasure than to see our students carry out their part of the contract by showing, at every subsequent examination, such progress as to lead to a very high mark in their final examination, as well as their State examination at home. May our efforts as your teachers soon convince you that we spare neither time nor labor to furnish you with all the requirements of a thorough medical education, and may those honest efforts on our part be crowned with the conquest of your cordial attachment to your Alma Mater.

Art. IV.—The Pathology and Treatment of Gonorrhœa *

By CHARLES M. BLACKFORD, Jr. M. D., of Lynchburg, Va.

Gonorrhœa is an acute infectious disease, characterized by a productive inflammation leading to the production of serum and pus in acute cases, and tending toward the formation of new connective tissue after persisting for some time.

As usually seen, gonorrhœa is an affection of the genital passages, affecting the urethra in the male and the vagina in the female, and; though marked by the same general symptoms in each sex, this difference in seat produces some variation in the remote effects. Before considering the pathology, it will therefore be necessary to understand fully the anatomical and histological structure of the urethra and vagina.

The male urethra consists essentially of a tube of mucous membrane supported by a sub-mucous layer, which is composed of muscular tissue in the prostatic and of fibrous tissue in the spongy portion, but in this latter there is also found a layer of erectile tissue. The urethra being erectile—that is, being of varying length and diameter under different circumstances—its mucous lining is "too large," and is thrown into folds when in a flaccid state, so that strictly speaking, there is no lumen while the tube is in its ordinary condition. The existence of these folds must be borne in mind, as an important pathological condition is dependent on them.

The urethra is not a simple tube of uniform calibre. It contains dilatations and contractions, and has several glands of great physiological importance opening into it by ducts more or less patulous, into which morbific material may be forced by unskillful manipulation, thus producing results that might be extremely grave.

With this slight glance at the structure of the male urethra,

* Prepared for Medical Society of Virginia, September 3-5, in Wythe ville, Va.

we will pass at once to the pathology and clinical history of the disease under consideration.

The infectious material is usually deposited in the urethra near the meatus, and after a brief period of incubation, the symptoms make their appearance. There are a feeling of tingling and burning, increased on passing urine, and on inspection of the meatus, the lips are seen to be slightly everted and swollen. A serous discharge commences, which soon becomes purulent, and the whole penis is painful and sore to the touch. The amount of discharge varies in individual cases, and may be scant or profuse. After a period, which may be but a few days or may extend over weeks, the inflammation may subside and the patient get well, or the disease may pass into the chronic condition known as gleet.

Microscopical examination bears out the clinical evidences of inflammation; the epithelium lining of the canal is swollen, cloudy and degenerated. Within and between the cells are diplococci, and imbedded in the pus cells, filling the urethra, the same micro-organisms are found. The sub-mucous tissue is infiltrated with serum, leucocytes, and, later, in some cases, with pus. Should the case recover after short duration, this exudate will be absorbed, and leave no trace of its presence; but should the exudate organize, the folds of mucous membrane will be glued together, and a diminution of the lumen at that point result, thus forming what is called a stricture. It is necessary to understand this point fully to have a clear conception of gleet. A stricture is not merely a scar. It is formed beneath the mucous membrane, and is the result of the organization of the fibrinous exudate fastening together the folds of the lining membrane. It is evident that the rugæ thus agglutinated, form crypts which furnish hiding places for the gonococci almost beyond the reach of antiseptic agents.

Before going further into the pathology of the disease, it is well to state clearly what is meant by gonorrhœa. It is an inflammation of the urethra, but every urethritis is not gonorrhœa; and my experience leads me to think that

many of the cases that come under our observation as gonorrhœa, are far from being so. We have an infallible test in microscopical examination; and the genito-urinary surgeon who would be accurate in his diagnosis, should in no case neglect this means, even though it be some additional trouble. The specific cause of true gonorrhœa is a diplococcus, to which the name *gonococcus* has been given. It is easily stained by any of the ordinary coloring reagents, and is easily differentiated from the other diplococci that may accompany it, by the fact that Gram's decolorizing method will bleach it, while all the others are unaffected. It lies between and within the epithelium and pus cells, and is, consequently, hard to reach, and from its position, it is liable to be carried off in the lymph current and start secondary abscesses in neighboring glands.

Until very recent times, the disagreeable sequelæ of an attack of this specific urethritis, gonorrhæal rheumatism, was inexplicable, and even at the present day, its pathology is far from certain; but the study of the action of ptomaines and leucomaines, so carefully wrought out by Vaughan and Novy, has given us a hypothetical pathology which further investigation may confirm. It is more than probable that this complication may be the result of the physiological action of some poison elaborated by the micro-organism, and that it is combatable by the destruction of the cocci. The notion that it is due to the absorption of urinary materials, is untenable; for were that so, it would follow any lesion of the urinary tract, which we know is not the case.

When gonorrhœa passes into the chronic state, it is called *gleet*. Few subjects in the domain of surgery or pathology have been so misunderstood as this; nor have many been more fully explained by modern methods of research. To understand it, the statement made above as to the mode of formation of a stricture must be remembered. A stricture is formed by the rugæ in the urethral mucous membrane, and its subjacent tissues being fastened together by the organization of the lymph poured out in and around them. In this way "pockets" are formed, in which the secretion

from the membrane is retained, and in which cocci can live unmolested by any agent. The calibre of the stricture is of no moment, for however slight the diminution of the normal lumen may be, the sacculation of the membrane is present, and so long as this persists, and so long as the micro-organisms maintain their lives, just so long will the gleet continue.

It is this specific nature of the disease that constitutes the great difference betwen it and the other forms of urethritis or catarrh of any other membrane. The treatment differs from that of other catarrhal affections on account of its cause, its seat, and the impossibility of giving functional rest to the affected part. It is, however, a traceable disease when properly handled, but one of the most obstinate that we encounter when such is not the case.

In the female, the lesions are similar, though the larger size of the canal renders the seat of disease more easy of access, and diminishes the danger of its becoming chronic. The lurking place for the bacteria is the cul-de-sac behind the neck of the uterus, but a knowledge of this fact will go far towards obviating it.

The *treatment* of gonorrhœa is a matter of importance to every physician, for, like the poor, we have it with us always. I am not one of those who say that the affection is of no more importance than a cold in the head, nor one who attributes every ill that may afterwards befall the patient to the old case of gonorrhœa; but, standing on the safe middle ground, it may be said that its possible complications and sequelæ render it sufficiently serious to deserve our most careful attention.

There are a few points that must be borne in mind. The first is that we have a narrow tube filled with a muco-purulent secretion that is not readily miscible with water, and behind this liquid plug is a sphincter muscle, closing the channel. If an injection be made, it will but play on the end of this plug, and will not touch the portion of the urethra in which lies the seat of disease. Again, this secretion is actively contagious, and, if forced into the bladder, will

extend the disease to that organ. It is, therefore, necessary to remove the secretion from behind and treat a clean membrane.

This may be done in several ways. If the patient be told to urinate immediately before the treatment is to be applied, the urethra will be fairly clean, but irrigation accomplishes this end much better. A small flexible catheter, lubricated with glycerine, may be introduced to the triangular ligament, and a warm solution of sodium bicarbonate run through it, washing the urethra as it returns. From a pint to a quart will suffice, and all the pus will be dissolved by the alkaline bath, and is entirely removed. By raising the fountain syringe containing the soda solution, any desired pressure may be obtained, and enough pressure should be used to dilate the urethra sufficiently for the wash to reach the bottom of the crypts.

When the water returns clear and free from threads or "tripper faden," the antiseptic wash should be used. My own practice is to employ two successive baths—one a solution of permanganate of zinc in a strength of 1-4000, or, roughly, two grains to the pint, and follow it with a 1-20,000 corrosive sublimate. The permanganate removes the last traces of mucus and pus, and is an efficient antiseptic; but as soon as the pint has run through, I dissolve a tablet containing one-third of a grain of sublimate and five grains of common salt in a pint of warm water, and with it wash the inflamed surface thoroughly.

A moment's reflection will show the importance of clearing the passage of muco-pus, for if not done, the sublimate will precipitate the albumen in it, and form an impervious coating over the membrane, beneath which the morbid process may go on entirely beyond our reach. By washing the discharge thoroughly away, the gonococci are fully exposed to the germicidal agent. By using these measures twice or three times daily, the inflammation will be seen to subside, the discharge to stop and the patient to be cured in a shorter time than by any other treatment which has fallen under my observation.

The *treatment of gleet* may be summarized in three words: Cut the stricture. Until that obstruction be removed, all treatment will be useless, for it furnishes a focus of irritation and a hiding place for bacteria. It should be removed by dilatation, or, which I prefer, by cutting. After destroying the stricture, the gleet will rapidly disappear under soothing antiseptic applications.

The statement made above that the treatment of gleet is to cut the stricture should be qualified. Every long-continued discharge from the urethra is not a gleet. After an attack of gonorrhœa is over, the mucous membrane may remain in an atonic condition for a varying time, during which there will be more or less discharge, but in such cases there are no tripper-laden and no gonococci. When this is the case, all treatment directed to the urethra should be stopped, and the general condition of the patient improved. Tonics, surf-bathing, or other out-door exercise, will prove of benefit, if not too severe or violent, but of course excessive exertion of any kind must be discouraged, and sexual rest insisted on. Steel sounds, cautiously used, will often aid recovery, whether by dilating strictures in course of formation, or by some obscure pressure effect on the membrane, I am unable to determine.

Experience teaches the sad lesson that there is no treatment that is unfailing, but in a fairly large practice among such cases, I have found that alkaline irrigation, followed by weak antiseptics, give me more satisfactory results than any other in ordinary use.

A word in closing as to *internal medication.* Except the alkaline diuretics and laxatives, internal medication is of doubtful value. I question our ability to render the urine antiseptic by agents given by the mouth, though it would be most desirable. The use of the balsams is hallowed by long usage, and our patients expect them, but, aside from the mental effect, little or no good will follow them. Rest, cleanliness, and antisepsis, are the great pillars on which we rely.

ART. V.—"Meddlesome Midwifery"—A Dangerous Term.

By ELLIOTT T. BRADY, M. D., Chatham Hill, Va.

MEMBER MEDICAL EXAMINING BOARD OF VIRGINIA, ETC.

Having, within a few years, heard the above term used freely in discussions before our State Medical Society, and, as a result, met with the cases described below, I think it would not be improper to explain what is meant by the term. These cases I saw in consultation:

1st. A case in which the attending physician made no examination, stating that it was considered "meddlesome" to do so. The case was a malpresentation, which could probably have been corrected in the early stage. Child dead; mother nearly so.

2nd and 3rd cases. Both breech-presentations, the body being born alive, and head expelled from uterus, but suffocated by retention in vagina. The head was born promptly by gravity and muscular contraction, after simply raising the child's hips off of the bed. The attending physicians claimed that it was "*meddlesome midwifery*" to *touch* a child during labor.

4th. A dead child, the mother having been in labor fifty-two hours, the os retracted behind neck of child, though the head was still at superior strait. Delivery with forceps was easy. Attendant physician "had thought of using forceps, but knew it was considered *meddlesome midwifery* to use them."

These cases speak for themselves, and I note them to call attention to the fact, that there is danger in using even legitimate terms in the presence of the ignorant. "Meddlesome midwifery" is a proper term for *improper and unnecessary interference*, simply this and nothing more. It is dwelt upon by gynæcologists and obstetricians with dangerous, even if legitimate, emphasis, and improper deductions are drawn therefrom. Therefore, I state below what is considered the imperative duty of every physician and at *every* labor.

1st. By observation and palpation, satisfy yourself that the patient is actually in labor.

2nd. Ascertain if bowels and bladder are empty; if not, empty them at once.

3rd. Make a digital and bimanual examination, and determine presentation, and relative size of head and birth canal.

4th. If abnormal or difficult presentation, try to correct it.

5th. Examine at regular intervals; if normal, to see that it stays so; if abnormal, to improve presentation if possible, and in either instance to note progress.

6th. If, from failure of contractions, after dilatation of os, from great size of head, small size of pelvis, or other causes, delay seems dangerous, apply forceps.

7th. Protect perineum; and if necessary, retard extra rapid second stage.

8th. Never allow the head to be retained long after delivery of body, in breech-presentations.

9th. Always examine placenta carefully, and if portions are, or even seem to be, detached, go after them at once. Observe absolute cleanliness throughout.

All will agree on these points. Individually, I approve of the use of chloroform to the degree of "obstetrical anæsthesia" in all cases, and also the skillful use of forceps in all difficult or delayed labors. Some differ on these points, however; but on those tabulated, I believe that every man who has used the term "meddlesome midwifery" before our Society, will admit that they are essential, and their neglect is and must be due to either carelessness or ignorance, either of which is criminal in a properly qualified practitioner.

Medical and Surgical Society of the District of Columbia.

At a meeting of the Medical and Surgical Society of the District of Columbia, held October 14th, the following officers were elected for the ensuing annual term: *President*, Dr. Clifton Mayfield; *Vice-President*, Dr. F. B. Bishop; *Secretary and Treasurer*, Dr. L. Eliot; *Executive Council*, Drs. T. N. Vincent, J. F. Moran, J. W. Bovée, L. Eliot, and J. M. Kober.

Art. VI.—Intestinal Obstruction—Its Classification, Etiology and Symptomatology.*

By R. ANGUS NICHOLS, M. D., Richmond, Va.

The most important division of cases of intestinal obstruction, from a clinical point of view, is into the *acute* and *chronic*. The former are those in which the mechanical difficulties that interfere with the passage of the intestinal contents arise suddenly, or at least in a short time, blocking the lumen of the intestine. In all such cases, the lumen of the intestine, at the seat of the obstruction, becomes impermeable, completely arresting the passage of fæces; and are attended by symptoms of a most urgent and distressing character, run a rapid course, and, unless relieved by scientific surgical interference, commonly terminate fatally in the course of a very few days.

Apart from strangulated hernia, the most frequent *causes of acute obstruction of the bowels* are (1) congenital malformations, such as imperforate anus, occlusion of the rectum, etc.; (2) the impaction of foreign bodies or abnormal concretions, such as gall-stones, enteroliths and other foreign bodies; (3) the invagination or intussusception of one portion of the bowel within another; (4) volvulus—the twisting or knotting of the bowel upon itself; (5) incarceration of an intestinal loop under or over a constricting band of organized lymph, adhesions of internal hernia and strangulation, by protrusion of the gut through rents or apertures in the mesentery or omentum; (6) various inflammatory affections of the abdomen, such as peritonitis and enteritis. Acute intestinal obstruction may also be rapidly superinduced in chronic cases, as of intestinal stricture, by any cause which produces sudden blocking of the whole calibre of the bowels.

In chronic intestinal obstruction, the clinical history usually points out the gradually increasing stenosis of the intestine. Its progress is comparatively slow, presents a milder train of symptoms not infrequently yielding to medical treat-

*Read before the Richmond Academy of Medicine and Surgery, September 24, 1895.

ment, or even undergoes spontaneous cure, and if it does prove fatal, they do so at a much later period than the acute cases. Chronic intestinal obstruction may be caused by several conditions, the most important being (1) accumulations and impactions of fæcal matter; (2) organic constrictions of the bowel, whether fibrous or cicatricial in character, or due to malignant growths, in which cases they are usually at or below the ileo-cæcal valve; (3) chronic invagination; (4) inflammatory change in the wall of the intestine, and especially in its serous covering—the result of external violence; (5) chronic peritonitis, often of tuberculous origin; and (6) the pressure of abdominal neoplasms. Sometimes we see cases which seem to stand midway between the extremes of acute and chronic obstruction, and may properly be called examples of subacute obstruction.

Having considered briefly intestinal obstruction as acute and chronic, I will now take up the special varieties.

(1). *Congenital Malformations of the Rectum and Anus.*—As to the frequency of imperforation of the rectum, authors differ. Its occurrence is variously estimated at one in from five to fifteen thousand births. The manner of development of recto-anal canal answers for the diverse forms in which malformation occurs. The mesenteron is developed from the hypo-blast, while the meso-blast furnishes the outer coats. From the epi-blast springs the anus and sphincter portion of the rectum. The proctodæum ascending unites with the descending mesenteron, and thus a continuous tube—the rectum—is formed. When, from any cause, these approaching tubes fail to properly osculate, a malformation results. This imperforation may occur in one of four ways.

Bodenhamer's Classification.—(1) Complete occlusion of the anus by a membranous diaphragm, or by well-formed skin. (2) The anus is absent, and the rectum ends in a blind pouch at a point more or less distant from the perineum. (3) The anus is normal in appearance, but ends in a cul-de-sac, and the rectum ends in a blind pouch at a variable distance above this point. (4) The rectum is totally absent.

It is by no means uncommon to find associated with this deformity other evidences of lack of development, notably spina bifida, extrophy of the bladder, etc. The rectum has been found opening into other organs, namely, the bladder, the vagina, and even the membranous portion of the male urethra.

Impaction of foreign bodies, gall stones, enteroliths, etc. Indigestible substances of various kinds, introduced by accident or intentionally, at times pass through the stomach into the intestinal canal and become lodged. In rare instances they are introduced through the anus. Gall stones are probably more often the cause of acute obstruction than extraneous bodies. It has been asserted that a calculus the size of a hen's egg may pass through the bile ducts, but now it is generally believed that such large concretions can only escape from the gall bladder by ulceration through the walls of the gall bladder and duodenum, and that a gall stone of smaller size, after it has passed through the bile ducts, subsequently becomes larger by the formation of concentric concretions during its retention in the intestinal canal. The calculus may be impacted in any portion of the small intestine, from the duodenum to the ileo-cæcal valve, but most frequently becomes lodged in the duodenum or lower portion of the ileum, and just above the ileo-cæcal valve. When once they have passed this valve, they meet with no further interruption until they reach the anus, when they may be arrested by the sphincter and require instrumental aid for their expulsion. But in fatal cases of obstruction from gall stones, the offending bodies have (according to Treves) invariably been found in the small and never in the large intestine. Gall stones are the cause of intestinal obstruction much more frequently in women than in men, in the proportion of four to one, and are met with almost exclusively in persons past the middle period of life, the average age in sixteen cases collected by Treves having been 57 years. Of the 1,541 cases of intestinal obstruction from various causes, tabulated by Leichtenstein, 41 were produced by gall stones. Wising reports having

collected 51 cases of intestinal obstruction caused by gall stone, in which 38 died. Some of the stones were very large, measuring in some instances four and a half by two and a half inches in circumference.

Enteroliths frequently have a gall stone for the nucleus. These intestinal concretions are of several distinct varieties: (1) They may consist of mineral substances, chiefly phosphatic, combined with animal matter and sometimes cholesterin. (2) They may be formed of densely packed masses of vegetable substances, mingled with fæcal matter and a small proportion of mineral constituents. (3) A third variety is formed by the aggregation of substances which have been swallowed as medicines or otherwise, such as carbonate of magnesia and iron, chalk, etc. Enteroliths rarely cause obstruction; according to Leichtenstein in less than two per cent. They do so three times as often in men as in women; in this respect, reversing the proportion of the sexes thus affected by gall-stone.

Intussusception or Invagination is that form of intestinal obstruction caused by the telescoping of one section of the bowel into another. A transverse section through an invaginated portion of the bowels reveals three intestinal walls; of which the outer, or sheath, is called the intussuscipiens, and the two inner coats, the intussusceptum. In some cases an intussusception is found to embrace five layers of gut, either a second intussusceptum having been invaginated into the first, which then serves for its sheath; or the first sheath, with its included intussusception, being invaginated into another portion of the bowel, which then forms a second sheath. These are called *double intussusception*, and even a few cases of *triple intussusception* are on record, there being in these no less than seven layers of gut.

The usual form of invagination is when the intussusceptum is directed downward, when it is called a descending invagination; to distinguish it from a rare form in which the intussusceptum is directed upward, this is called ascending invagination. The most frequent seat of invagination is at the ileo-cæcal region; next in order, the lower

part of the jegunum and ileum; lastly, those limited to the large intestine. This affection is more common in the male than in the female, and much more common during infancy. According to Treves, one-half of all cases occur during the first ten years of life, and one-quarter during the first twelve months. The direct causes of invagination are not well understood. It is maintained by some, however, that it is usually caused by a spasmodic contraction of a limited portion of the circular muscular fibres of the intestinal wall, whereby this portion, becoming smaller and firmer, is either overlapped and included by the part immediately below, or falls into it. Paralysis of the circular muscle would produce the same condition.

Chronic invaginations are occasionally met with, causing chronic and sometimes only incomplete obstruction. The cause of chronic invagination is often a tumor attached to the inner surface of the bowel, or from the lodgment of a foreign body or fæcal matter.

Volvulus.—This term may be used to designate two separate conditions. One, and that much the commoner, being the twisting of the gut around an axis formed by the mesentery or meso-colon (more rarely twisting of the gut upon its own axis), and the other being a knotting together or intertwining of two separate portions of intestine. The principal cause of volvulus is an abnormally long mesentery, allowing unusual freedom of motion to the loop of intestine which is attached to it. This defect may be congenital or acquired. Constipation and habitual distention of the sigmoid flexure of fæcal matter is probably the most frequent cause of elongation of the meso-colon, and increased length of this part of the large intestine. It occurs more frequently in men than in women, and oftener in the adult than in children. As I have said, this condition (volvulus) can only be met with where the mesentery of the bowels is of considerable length; it is, therefore, most frequently met with in the lower part of the ileum and sigmoid flexure of the colon. This condition, as compared with some of the other forms of intestinal obstructions, is quite rare.

Internal strangulation, next to invagination, is the most frequent cause of acute intestinal obstruction, apart from strangulated hernia.

Mr. Treves describes five varieties of internal strangulation. (1), Strangulation by isolated peritoneal adhesions; (2), Strangulation by cords formed from the omentum; (3), Strangulation by Meckel's diverticulum (a diverticulum passing from the last two or three feet of the ileum to the umbilicus), being a remnant of the vitelline duct; (4), Strangulation by normal structures with abnormal attachments, such as an adherent appendix vermiformis, or Fallopian tube; (5), Strangulation through slits and holes in the mesentery or omentum, in certain peritoneal ligaments or in membranous adhesions. In connection with these varieties may be mentioned certain forms of internal strangulated hernia, namely—obturator, diaphragmatic, etc.

Strangulation by bands, cords, diverticula, etc., is usually effected by the gut passing under the band, if this is short; or being snared in a noose or knot, if it is long, and attached by one extremity. In rare cases, however, strangulation has been caused by a segment of bowel being caught, and, as it were, suspended over a tense band.

Flexions and adhesions, as a cause of intestinal obstruction, are almost without exception the result of a previous peritonitis. An adherent intestinal loop may gradually become flexed by the cicatricial contraction of the inflammatory material deposited between the bowel and the adjacent serous surface. Immobilization of a section of the intestinal tube in a mass of inflammatory exudation may cause intestinal obstruction, by arresting peristaltic action of that part of the intestine.

Very acute intestinal obstruction is seen in cases of septic peritonitis, following laparotomy, where the technique is imperfect; this is caused by the bowel kinking upon itself and being glued together by the inflammatory exudate.

Strangulation by Diverticulum.—A considerable number of cases of intestinal obstruction are on record in which the obstruction was caused by a Meckel's diverticulum, the for-

mation of which is as follows: The alimentary canal, in its earliest stage of development, consists of three distinct parts, viz:—the fore gut, the hind gut, and a middle segment, which communicates freely on its neutral surface with the cavity of the yelk sack. The middle segment becomes more and more closed, until its original wide communication with the yelk sack becomes narrowed down to a small duct. In the adult, this duct usually disappears completely; but occasionally the proximal portion remains as a diverticulum. Diverticula are found most frequently in the lower part of the ileum, and are supplied with a mesentery when they spring from the lateral aspect of the gut near the mesenteric attachment. Diverticula on the convex surface of the bowel are free, and are supplied with vessels from the intestinal walls. From a surgical standpoint, the appendix vermiformis must be regarded as a diverticulum. This appendage may become the cause of obstruction when it is of abnormal length, and supplied by a long mesentery, and when at the same time it is transformed into an unyielding band of fixation of its free extremity to some point of adhesive inflammation.

Strangulation through slits and holes in the mesentery or omentum. Occasionally a loop of intestine slips through an opening in the omentum or mesentery, becomes imprisoned and strangulated. The rent may be congenital or the result of injury, penetrating or non-penetrating. The small intestine is most frequently involved, especially the ileum, and the aperture occurs as a rule in the mesentery of the last part of this organ. Strangulation of the colon in this manner is exceedingly uncommon. Internal strangulation is more common in the male than in the female, in about the proportion of three to two. It is most common in early adult life, and very rare in children. The small intestines are by far the most frequently affected—according to Brinton's statistics in 95 per cent. of all cases.

Fæcal Accumulation and Impaction.—This is almost without exception met with only in the large intestine, and particularly in the cæcum, the ascending colon and sigmoid

flexure. When habitual constipation reaches its highest degree, a portion of the bowel loses altogether the power of peristaltic motion, and fresh fæcal matter being constantly pushed into the affected segment by the action of the bowels above, the distention continually increases, and ultimately rupture of some of the muscular fibres ensues, or ulcers may form, leading to chronic peritonitis or cicatricial contraction, or more rarely to perforation, followed by acute peritonitis and death. Fæcal accumulations are more common to women than men, and are usually met with in those who have passed the middle period of life.

Stricture of the Bowel.—Intestinal stenosis may be either congenital or acquired.

Congenital narrowing of the bowel varies in degree from a slight contraction to a complete atresia. If the stenosis is complete, or sufficiently well marked to prevent the passage of intestinal contents, symptoms of intestinal obstruction will develop soon after the birth of the child.

Acquired or cicatricial stenosis is one of the remote consequences of deep ulcerative lesions, such as the ulcers of typhoid fever, tuberculosis, dysentery, syphilis, chronic intestinal catarrh, and those resulting from injury by ingested matter, by traumatism, or the necroses following strangulated hernia, and also stricture from malignant growths. Cicatrization in an ulcer which has its longest axis at a right angle to that of the intestine, is more apt to lead to obstruction than one which has its long axis in the opposite direction.

Malignant stricture of the intestine is commonly due to the presence of a cylindrical celled or colmunar celled carcinoma, forms of tumor usually classified with the epitheliomata. It may occur in any portion of the bowels, but is most often observed in the large intestine. The bowel above the contracted portion in either the cicatricial or malignant variety, becomes much dilated and generally thickened, though immediately above the stricture a pouch is often formed, with thin walls, in which ulceration and perforation are apt to occur. Stricture of the bowel is more com-

mon in women than in men, and usually occurs in persons over forty years of age. Cicatricial stricture is met with at an earlier age than the malignant variety. Of twenty-six cases of stricture of the small intestine collected by Mr. Treves, ten followed ulceration (six in males and four in females), two were due to injury (both in males), four were traceable to changes occurring in strangulated hernia (two of each sex), and ten (five of either sex) resulted from carcinoma. Of eight cases of stricture of the ileo-cæcal valve, three were examples of simple and five of malignant stricture, one in each category occurring in the male and the rest in the female sex. Of forty-four cases involving the colon, thirteen were of simple stricture (two in males and eleven in females), twenty-eight were of cancer (fourteen of either sex), and the nature of the last three was unknown, two in the male and one in the female sex. In these cases, it occurred in the following order of frequency: Sigmoid flexure, descending colon, hepatic flexure, splenic flexure and transverse colon, the cæcum, and, lastly, the ascending colon.

Pressure, external to the bowels, may be the cause of intestinal obstruction; among which may be mentioned various forms of abdominal abscess, neoplasm of the solid viscera (such as fibroma, fibro-myomata), the pressure from a retro-flexed displacement of the uterus, etc.

Strangulated Hernia.—This is the most frequent cause of intestinal obstruction. Where a hernia is so tightly constricted at its neck that it cannot be returned to the abdominal cavity, and its circulation is interfered with, it is said to be strangulated. This strangulation is more often seen in congenital than in acquired hernia, and more often in old than in recent cases. Strangulation may take place in any of the following varieties of hernia: 1. Inguinal; 2. Crural or femoral; 3. Umbilical; 4. Diaphragmatic; 5. Ischiatic; and 6. Obturator.

Strangulated hernia is usually due to the descent of an additional fresh loop of bowel into an old hernial sac; or, in a case in which no previous hernia existed, to a sudden descent of a knuckle of bowel through some of the natural

and narrow apertures of the abdomen, during some violent exercise.

Symtomatology.—The most important and prominent symptoms of acute obstruction of the bowels are: Pain, abdominal tenderness, constipation, vital depression, vomiting, tympanites, scanty urine, and, in cases of intussusception and fæcal impaction, the presence of tumor.

Pain.—This, in acute obstruction, is extreme, often excruciating. In strangulation by a band, or in internal hernia, it usually begins abruptly and continues without intermission, though often diminishing somewhat in severity as the case progresses. On the other hand, in volvulus and intussusception, the pain is at first paroxysmal, with intervals of comparative ease, but afterwards becomes constant, and even then it presents periods of exacerbation. The pain is often referred to a particular spot in the abdomen, which sometimes corresponds to the locality of the lesion. More frequently, however, this is deceptive, and no direct connection can be traced between the seat of pain and the strangulated bowel. Probably, in the majority of cases, the pain is referred to the neighborhood of the umbilicus, possibly owing, as suggested by Mr. Treves, to the fact that the solar plexus is situated a little above that position. Abdominal tenderness is usually absent in the earliest stage of acute obstruction, though in cases of enteritis it is present from the beginning. It is soon developed in volvulus and intussusception, but in strangulation by a band it is almost entirely wanting. Tenderness, limited to a particular spot, unlike pain, is an important symptom, as indicating the seat of obstruction.

Constipation is, of course, a prominent symptom in all forms of intestinal obstruction, but is by no means equally marked in all of the varieties. In cases of strangulation by bands, it is absolute and persistent, and only partial in those of enteritis, and in some cases of chronic invagination it has been at times entirely absent; indeed, in some cases of intestinal stricture, diarrhœa has been the chief complaint of the patient. Even when complete strangulation has occurred, the use of enemata may cause one or two

discharges of fæcal matter which has accumulated below the seat of obstruction. In acute intussusception the patient has a constant desire to go to the stool. This is considered almost pathognomonic by some, and with the tenesmus there is not unfrequently a discharge from the rectum of mucus, mingled with fluid or clotted blood.

Vital Depression.—In connection with the great pain of acute obstruction, there is usually great prostration, commensurate with the tightness with which the bowel is strangulated. This is most marked in strangulation by a band and in internal hernia, somewhat less in volvulus and the more acute cases of invagination; and may be entirely absent in obstruction by gall-stones, etc. There is great muscular weakness, the pulse and breathing are accelerated and weak (the former thready and the latter shallow). The temperature is usually below normal (except in enteritis). There is great thirst, the face is drawn with pain, and has an aspect of horrible anxiety, the features become pinched, the eyes sunken, and the voice weak and muffled. A cold sweat breaks out upon the surface, and in extreme cases the limbs become cyanosed and the complexion livid. The patient at last sinks, retaining his intelligence, as a rule, to the last.

Vomiting.—This is an early and prominent symptom in cases of strangulation by a band or diverticulum, but much less so in those of intussusception and volvulus, until secondary enteritis is developed, when the nausea and vomiting may be very distressing. The matters first ejected are the contents of the stomach, and then those of the upper bowel, finally it may be decidedly stercoraceous in character.

Tympanites.—This is an early and well marked symptom in cases of volvules, but is less prominent in other forms of intestinal obstruction, being indeed often absent until general peritonitis has developed. In all cases of acute intestinal obstruction there is a diminution of the quantity of urine excreted.

The Abdominal Tumor.—This is one of the most important symptoms of intussusception. In the vast majority of cases, the tumor of intussusception is found on the left side.

It is an elongated cylindrical swelling; in many cases, children especially, the tumor can be distinctly felt through the rectum. The tumor of fæcal accumulation is almost always found in the right side (cæcum), and may often be made to pit by firm external pressure. This pitting is considered a pathognomonic sign.

Chronic Obstruction.—The symptoms of chronic obstruction may be considered in contrast with those of acute obstruction. The pain is not so constant, but rather paroxysmal and colicy in character, and often coming on at a definite period after eating. There is little, if any, abdominal tenderness, unless peritonitis supervenes. Constipation is probably the most important symptom, but this is by no means constant; indeed, it often alternates with, or is entirely replaced by diarrhœa. The vomiting is less severe, and not so apt to be sterocoraceous as in the acute varieties. Tympanites is not an early symptom, but may become quite prominent toward the termination of the case. The presence of a tumor is not so well marked in intussusception and fæcal impaction, but a distinct tumor can sometimes be observed in cases of obstruction from malignant neoplasms.

The Medical Herald,

One of our most interesting exchanges, has secured the privilege for its representative in France to reproduce some of the grand and rare old pictures found at Nice and in Paris. There will be some fifty subjects in the collection, none of which have ever been produced in America. The manager of the *Medical Herald*, Mr. Chas. Wood Fassett, shows great tact and energy in directing the affairs of that journal.

Rhode Island Medical Practice Laws.

After twenty years' fight on the part of the doctors of Rhode Island, the Legislature of that State has passed a law regulating the practice of medicine.

Art. VII.—The Galvanic Current in the Treatment of Pelvic Pain.*

By J. ALLISON HODGES, M. D., of Richmond, Va.,

Professor of Anatomy and Clinical Professor of Nervous Diseases, University College of Medicine, Etc.

Pain in any locality of the body is a symptom of disease, and is the cry of a diseased organ for relief. Hence for either its amelioration or cure its prime cause should be sought, for it is almost an axiomatic proposition that only that form of treatment of any disease is rational and scientific which is directed to the removal of its cause. It will be admitted, I presume, by every practitioner that pain referred to the locality of the pelvis, or its adjacent contents, is the principal symptom of the majority of diseases peculiar to women.

To relieve this symptom, all of the resources and expedients of the physician and surgeon have been called into requisition and often exhibited without permanent or at times even transient benefit.

The physician, with his tentative methods, has often erred by seeking to remedy, by systemic medication or cutaneous applications, an evil that has its source within the body of the uterus itself or its adnexa, while the surgeon, on the other hand, in his precipitate haste to remove the presumable cause at once and win his surgical spurs before a rival shall have had opportunity to test his skill, does not hesitate to perform, if need be, a radical operation and unsex the victim of his ambitious caprice. There is much of utility, I am free to admit, in these practices as regards the treatment of pelvic pain, but the methods of both are liable to abuse, and candor compels one to the belief that in this day of promiscuous and multiplied medication, as well as of rash and untimely surgery, oftentimes, in the hands of inexperience, the patient has been the sufferer, having become, under the usually accepted treatment, either an hab-

*Read before the Medical Society of Virginia, in session in Wytheville, Va., September 5, 1895.

itué of narcotics, or, more lamentable still, a mutilated woman, when, perhaps, another method of treatment might have permanently relieved them. Electricity, in its various forms, offers some peculiar advantages in the treatment of diseases of this class, and I have chosen to direct attention, on this occasion, to galvanism, because its successful application is within the reach of most practitioners, and because, moreover, many of the pains referable to the pelvis are essentially reflex neuroses.

I am perfectly aware that there are many excellent practitioners of our profession who believe that electricity is simply a nerve and muscle stimulant, and nothing more. It is all this, and even more; for it is antiseptic, and is not only a nutritive stimulant, but a stimulant to absorption as well, and has, in addition, the power of contracting uterine tissue.

It is only within a comparatively recent date that we have learned the great value of continuous strong currents, and the success attending their administration in diseases exhibiting pelvic pain as a symptom of their condition.

The most ardent enthusiast of this method, however, does not claim for it virtues that it does not possess, and which unskilled operators have brought into disrepute by employing it in those cases which experience has taught that it has no rational application—namely, acute inflammatory conditions.

The best results are obtained in those cases where the pain may be classified as a symptom—(a) of *obstructive dysmenorrhœa*, (b) of *nervous dysmenorrhœa*, and (c) of *pelvic neuralgia coincident with the menstrual periods.*

A. Obstructive Dysmenorrhœa.—When the history of an attack of dysmenorrhœa indicates an obstruction to the flow of the menstrual fluid, and this is verified by a physical examination, relief can be secured only by enlarging the canal at the point of obstruction.

Stenosis at the internal os is generally recognized as one of the most frequent causes of dysmenorrhœa, but even if an excessive hyperæsthesia of the endometrium be consid-

ered as the cause, in either case galvano-chemical cauterization offers an efficient means for correcting it and of rendering the canal patulous. This can be accomplished with either pole active, but positive cauterization is, in my opinion, the best, especially in cases where local enlargement is desired, for the positive eschar is more retractile. My casebook records four cases treated within the past several months that were suffering from dysmenorrhœa due to stenosis, that have been promptly and permanently relieved after three, five, six and eight intra-cervical positive cauterizations respectively. The strength of the current in these cases varied from 40 to 70 milliamperes, lasting from five to seven minutes, and given at average intervals of four days.

B. Nervous Dysmenorrhœa—The majority of the cases of dysmenorrhœa are purely neurotic in character, for in many instances the pain continues even after forcible dilatation. This class of cases can oftentimes be relieved almost magically by stabile percutaneous applications of 10 to 50 milliamperes to the spine, or hypogastrium and spine.

This is an especially valuable treatment in young girls of a chlorotic cachexia, and, moreover, it is not shocking to their proper sense of modesty.

The value of this method of treatment could be enforced by citing many illustrative cases, but it is needless to do so, for its merits are thoroughly appreciated by those who have employed it, cures having resulted even where forcible dilatation had failed to afford relief.

C. Intermenstrual Pelvic Neuralgia.—It is an accepted theory by many that a persistent pain in the groin or iliac region is indicative of ovarian disease, but the best authorities are agreed that strictly neuralgic pain is rarely situated in the ovary. In the graver cases of pelvic neuralgia, electrical treatment accomplishes no more permanent benefit than does a radical surgical operation, but in cases of ovaralgia, permanent relief is afforded by abdomino-lumbar or vagino-abdominal applications of the galvanic current, especially

if it is alternated with the periodic induced current so as to give tonicity to the abdominal structures.

In short, it is sufficient to say that the use of continuous strong currents in the treatment of pelvic pain has afforded better results than any other form of treatment hitherto employed, when its successes are considered, as well as its easy methods of application, and, in addition, when the fact is recognized that in no case does it ever endanger the life of the patient or debar the use of other alternatives.

Art. VIII.—Things we Should Remember in the Application of the Forceps.*

By ELMER SOTHORON, A. B., M. D., of Washington, D. C.

The proper application of the forceps in each situation of the head, has ever been considered an achievement of difficulty. It requires a complete knowledge of the various divisions of the pelvis, an acquaintance with the construction of the child's head, and the modes of ascertaining its precise situation in the cavity which contains it. It is also necessary to the success of the operation, that the physician understands the construction and the mode of action of his instruments, and have, by practice, acquired some science in placing them.

It has been considered by some authors uncertain whether the art of obstetrics has been benefited or injured by the introduction of instruments into its practice. That much harm has been done by ill-judged and worse-conducted application of the forceps, I cannot deny; but the abuse and wrong use of a thing by no means furnishes a logical conclusion against its proper use. If we were to admit this reasoning in almost anything that has as its object the saving of human life, we should have a most reduced list of real benefits; and were it legitimate to urge it in the

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* Read at a meeting of the Medical and Surgical Society of the District of Columbia, October 14th, 1895.

practice of medicine or surgery, we should scarcely dare to prescribe a drug of our materia-medica or venture to employ a single instrument of the very many we now consider essential to the exercise of these branches of medical science. What physician would hesitate to prescribe opium, mercury or other drugs because quacks and ignorant people have abused them or even destroyed life with them; or who, in the different branches of surgery, would throw aside the trephine or the curette because either of these instruments, in the hands of the unskilled, might be harmful? Let those who are to practice obstetrics become well acquainted with its elements before they commence it; then gradually proceed to the exercise of the more difficult operations connected with it, and the clamor against the use of the forceps will, in a great measure, cease.

I believe that if the forceps be judiciously employed, the lives of many children can be saved, and that the death of the mother would be a rare occurrence. It is unfair to charge all the mischief which has followed the use of the forceps to the ignorance of those who have employed them, or the action of the instrument itself. In many instances, the evils which appear to follow their use really existed before they were employed, but which might, I believe, in a great many cases, have been prevented had a timely and careful use been made of them.

Pardon me for alluding to the following case, which illustrates very clearly just what I have said:

Mrs. C., white, age 32, with her first child, felt slight pains five or six hours before she sent for me. The pains, when I first saw her, were pretty frequent, but not very protrusive; the os uteri not freely dilated, and the membranes were entire. After four hours, the pains became more effective, the membranes ruptured, and the head soon occupied the lower strait. After three hours more of hard and tedious labor, the vertex was about to emerge under the arch of the pubis. The pains now became more distinct and less forcing, while the external parts remained rather rigid. After waiting nearly three hours, in order that nature should be given every opportunity to do its full share of work, I proposed

the use of the forceps, but their employment was obstinately resisted; and as no advantage whatever was derived from the delay, and as the perineum was very much and permanently distended, I became uneasy, and represented as forcibly as I could the necessity of immediate delivery by the forceps. I presented for the consideration of the patient, the advantages of immediate action and the probable consequences to both her child and herself, especially the child, if she did not permit their use, but nothing could prevail upon her or her family to submit. They seemed to look upon the forceps as instruments of torture rather than of relief, claiming that her mother had seven children born without the use of them, and she did not propose to have them used. I waited and waited, and as I watched the pains become more distinct, I besought them to let me assist her with the forceps, or else call in some other physician, but I received the same negative answer, but promising if the child was not born in two hour's time, she would comply with my wishes. These two hours, like the preceding ones, passed away without the much-hoped-for relief. She now consented to anything I judged proper for her relief.

With necessary common sense, antiseptic precautions and the assistance of the nurse, I applied the short forceps, and without much difficulty delivered her of a well-formed dead baby—death due, without the slightest doubt, to *asthenia*, caused by the early separation of the placenta from the uterus, as the expulsion of the placenta followed immediately after the birth of the child. Had I been allowed to assist nature when I asked, I am sure the baby would have been born alive.

This case, like many others, shows that we do harm sometimes by waiting too long. I am no advocate of the habitual use of the forceps, but we should always be ready to assist nature when we see that she is not able to do her duty.

We should not allow any particular time for a woman to be in labor as a criterion to apply the forceps; common sense should be the dictator. If labor is slowly, but progressively advancing, which natural labor always is, I see no just cause whatever for the use of the forceps, although the patient may have been in labor a little longer than her neighbor.

On the other hand, I have often seen cases, after making

the first examination, in which I realized that the forceps would eventually have to be used. We should remember, however, that nature is slow but sure, and we should never attempt to force her by the use of the forceps unless the life of the mother or child is in danger. If we have a large, roomy pelvis with proper diameters, we should never hasten nature because she has met with some slight obstruction; wait and see if the obstruction will not be overcome, after which labor may speedily terminate. It takes time for nature to mould and direct the passages of the head through the pelvic canal.

We should remember that the forceps act not only as a tractor, but also as a compressor; and that they are means by which harm as well as good can be done. The physician should diagnose the position of the child's head accurately and thoroughly comprehend the course that the head has to pursue in its exit, so that in making traction with the forceps he will be exercising his force in the same direction with nature.

We should never attempt to add torture to pain by attempting to apply the forceps without a proper anæsthetic, especially in the application of the long forceps. We should remember, never attempt the use of the forceps without proper assistance. Especially valuable are assistants when you have your forceps placed and locked and about to terminate labor. With an assistant on each side holding an ankle, and steadying the limbs by grasping the knees, you certainly feel that the chances of ruptured perineum are less—especially if you are careful in making traction and keeping all pressure that is possible off the rigid perineum. I always instruct my assistants that just as the child's forehead is about to pass over the perineum, they must keep the limbs well separated, but slightly extend the thighs—not to keep them tightly flexed on the body, for we can see by doing so it greatly aids in relaxing the perineum.

The forceps should always be carefully applied. We had better go slow, and have them applied properly, than to be

too anxious to help our patient, and have them improperly applied.

All forceps should, if fitted properly, lock without much difficulty, for we should remember that a little force, used in an attempt to lock an ill-fitted forceps, exercises powerful and dangerous compression on the child's head. We should always guide each blade in its application to a place of safety—being especially careful that the thin and stretched os uteri is not caught in between the child's head and the ends of the forcep blades; great harm to the patient could result from such application.

We should remember never to allow ourselves to be persuaded to use the forceps by the entreaties of patient or friends. It is just such entreaties that cause physicians to be too anxious to resort to their use, when they are never needed and are oftentimes the direct causes of the death of mother or child.

When we are sure the time has come for their application, we should plainly inform the patient that for the safety of her life and that of her child we are obliged to use them, when I believe the majority of women will readily consent to their use.

I am a true advocate of antiseptic midwifery. It has been claimed by some physicians that it is next to an impossibility to practice true antiseptic midwifery in private practice, especially among the poorer class. Granting we cannot use the necessary antiseptic precautions that are used in our lying-in hospitals, for the reason that we have not the help of the trained nurse and the necessary adjuncts at our command, we certainly can be cleanly, which, after all, is the true basis of antiseptic surgery. We can always obtain, in the poorest household, plenty of boiling water, clean cotton or linen sheets—no matter how coarse—to be changed as soon as soiled. We should always use a warm vaginal injection, likewise empty the lower bowel by an enema, and catheterize the bladder, before applying the forceps. If it is a case in a poor ignorant family, where I think they have not intelligence enough to give them properly, I give the

enemata myself, and thoroughly cleanse my hands before proceeding further.

We should always remember to cleanse our forceps before making application, and especially if we withdraw them for readjustment. When we introduce a forceps blade, we should remember that we are placing in the vagina and uterus a foreign body, which cannot be too aseptic; for we can readily see how the uterus and vagina, in their dilated and abnormal condition, can absorb septic matter. There is no more reason why septic fever should follow the application of the forceps—if applied properly—than in normal labor.

I advocate no special make or design of forceps, for they all have their advantages and disadvantages; but they all should be stamped with the old familiar wording, "Handle with care."

1921 *I Street N. W.*

Art. IX.—Remarks on Goitre, with Report of Cures.*

By JOSEPH A. WHITE, A. M., M. D., Richmond, Va.,

Professor of Ophthalmology, and Associate Professor of Otology and Laryngology, University College of Medicine, Richmond, Va.

John Beattie, age 46, a stone-cutter by trade, consulted me in December, 1894, about his eyes. I prescribed the needed glasses, and noticed he had a very large goitre, which I took to be a fibro-cystic enlargement of the thyroid gland, from a very cursory examination. There were several cysts, one in the right and two in the left lobe of the gland. I asked why he did not have it treated, and his reply was that he was so discouraged by the failures in the past, he had given up; although it was steadily increasing in size. It had begun about fifteen years previously, as far as he could recollect, and for over twelve years had been a marked deformity. He had tried iodine injections, tapping sac with an aspirator, galvanism, and, as he expressed it, the "electric needle."

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* Read before the Richmond Academy of Medicine and Surgery, October 8, 1895.

On June 27, 1895, he returned and asked me what could be done with the goitre, as it was becoming an impediment to respiration, because of compression of the windpipe. Having had very satisfactory results with iodide of potash, by *cataphoresis* in goitrous cases, I commenced treatment by this plan.

Up to Wednesday, July 27th, I had used cataphoresis twelve times with some slight diminution of the tumor and impediment to respiration. On July 17th, I opened the central cyst at the bottom, and drained off a quantity of dark brownish muddy fluid, similar to what is seen in ovarian cysts, etc. The sac was washed out until the returning liquid was clear, and a small quantity of iodine injected. The opening was kept free by packing with gauze. For several days, the sac was washed out and packed daily, with considerable improvement. On July 27th, I cut into the left cyst from the top, and passed the knife across and out at the opening made in the lower part of the central cyst, which was followed by a discharge of the same fluid and venous hæmorrhage. Iodine was injected, and a silver drainage wire was inserted, entering one opening and out through the other. Antiseptic gauze was packed into the cyst.

The next day, he was unable to come to my office, being confined to bed. He was visited twice daily, and the sac washed out with peroxide of hydrogen and bichloride of mercury.

On the 31st, his neck was enormously swollen, especially on the right side—all the lymphatics being involved—and deglutition was almost entirely arrested. I at once cut into the right cyst and drew off a great quantity of fluid. This sac was connected with the others, and a drainage wire, with packing, inserted. Every day the sacs were washed out, disinfected and packed. Quinine and stimulants were used internally.

On August 4th, his temperature was 104° and pulse, 126; on the 6th, the temperature was 101, and in a few days, normal. He was then put on iodide of potash, which was increased to sixty grains three times a day.

By September, his neck was reduced almost to its normal size. Some little thickening of the parenchyma of the gland remained, although the cysts had entirely disappeared. For this, cataphoresis was continued, and you saw his condition two weeks ago when he presented himself to this Academy. From wearing a 17-inch collar, he was wearing a 14½-inch.

The contour of the neck was perfectly natural; the thyroid cartilage was prominently defined, and, with the exception of the scars of the incision, there was little or no sign of trouble of the thyroid gland.

The above case is an interesting one in its results, and on account of the prominence which the thyroid gland has assumed in medical journals, the last year or so, especially in relation to the use of the extract of the thyroid glands of animals in the treatment of myxœdema, although the subject of goitre itself seems to have received but little attention. I find, in looking over the medical journals of the last year or so, that very little is said in relation to this matter; most references to the thyroid gland being in connection with the treatment of myxœdema. Goitre, however, whilst receiving but a short chapter in most text-books on surgery, is a subject of considerable importance. We have different troubles of the thyroid gland, such as acute thyroiditis; bronchocele, or goitre of different forms, such as follicular, fibrous, fibro-cystic, and cystic; and that peculiar complex of symptoms, known as *exophthalmic goitre.*

I have no doubt that the reason that we only occasionally find writings upon this subject in the regular medical journals is due to the lack of knowledge of the functions of the thyroid gland, and the difficulty of explaining etiologically the various changes that take place. Some recent investigations into the functions of the gland by Hurthle, Eulenberg, and others, may result in a better understanding of the pathological alterations. Hurthle reports that the colloid substance in the follicles is produced by the protoplasm in the epithelial cells, and that the secretion of the gland consists in the formation of this colloid substance. It is supposed that pathological changes in the gland are due to some deterioration of this normal secretion. Probably some evidence of this is found in the fact that the same treatment (the use of thyroid extract, for example,) decreases the enlarged gland, and improves the bad results which come from the absence of it, such as myxœdema. Another corroboration, probably, is the well-known fact that cretinism is found

in connection with both hypertrophy and atrophy of the gland. Eulenberg thinks that the constitutional symptoms of exophthalmic goitre may be the direct toxic effects of absorption into the veins of the increased altered secretion of the follicles, which produces chemical changes in the constitution of the blood. If this theory is correct, the nervous origin of exophthalmic goitre must be discarded; that it is tenable is shown by the fact that nearly the same symptoms are produced by the artificial introduction of thyroid secretion in excess. But these theories in regard to the etiology of the pathological changes of the thyroid gland are somewhat speculative as yet, and require further investigation and confirmation.

The treatment of troubles of the thyroid has received lately considerable impetus. We might divide it into Medicinal, Electrical, and Operative.

1. *Medicinal.*—The medical treatment is by the internal administration of suggested remedies, such as iodide of potash, fluoric acid, hydriodic acid, thyroid extract, etc., and, locally, by the introduction into the substance of the gland of iodine, iodoform, etc. Every one is familiar with the iodine treatment. It is the oldest, and has held its ground longer, than any other, with varying success. Probably 90 per cent. of follicular, and fibro-cystic goitres are reduced in volume by this treatment, but few radical cures are recorded. Garé, of Tübingen, reports, however, very great success with the injection of iodoform, one part to seven of oil and ether. Kocher, of Berne, has used thyroid extract in twelve cases, all of which were improved, some cured. Bruns, of Tübingen, also tried feeding in twelve cases with fresh calf thyroid; four or five cases were cured, and the others, with the exception of three, much improved.

2. *Electrical.*—Under this heading, I would include three methods of using electricity. First, galvanism, by passing the continuous current through the gland, both poles being on the tumor; second, by electrolysis, and, third, by cataphoresis. With the use of the constant current, I have had little or no experience. It has been suggested for the re-

duction of the different kinds of glandular enlargements, and has been used with varying success. Electrolysis, I have used in follicular and fibrous goitre. The negative pole is generally passed into the growth, and a current of ten milliamperes is turned on, and continued for about five or ten minutes. This can be repeated in from three days to a month, according to the amount of irritation set up, the strength of the current being increased until we can use as much as forty or fifty milliamperes. Gradual reduction of the growth takes place under this treatment, and a number of cures are recorded as its result. It is of very little service, however, in cystic goitre, because we can't get the effect of the negative pole in the alteration of the tissue of the growth as we do in the more solid tumors. It has been suggested to tap the cyst, washing it out, fill it to distension with chloride of sodium solution, and by this means receive the full effects. With electrolysis, from four or five to a dozen or more sittings are required.

3. *Cataphoresis.*—The third method, that of cataphoresis, or the introduction of remedies by the direction of the electric current, has been in my hand a very satisfactory treatment, particularly in follicular goitre. I can record two or three cases in the last eighteen months where I have had the most satisfactory results from the use of iodide of potash by this method. I use, attached to the positive pole, a metal disc, which is covered with wet chamois or cotton, upon which is packed as much powdered iodide of potash as it will hold. This is covered over with a thin pledget of wet cotton, and applied to the growth. The negative pole is held in the hand, or applied to the back of the neck, or between the shoulder blades. I have seen very little notice of this method of treatment. The only case that I know of recorded, was one reported by Dr. Hunter McGuire, two or three years ago, in the *Virginia Medical Monthly.* In the goitrous enlargement, or bronchocele, which one observes in young people, young girls especially, about the time of puberty, I don't know any more satisfactory treatment. It is true that this form of bronchocele occasionally

manifests itself only at the time, or during the period of, menstruation, and very frequently gets well of itself. I am not, however, referring to this form, but to those cases of persistent enlargement of the gland, which not only is seen during the menstrual period, but is present more or less all the time until active measures are instituted for its relief. I have seen cases of follicular bronchocele that have become very large in women because no attention was paid to it in the stage where it could swell up and go down, as it were, on the theory that it would get well of itself. One of these was very large, and persisted for several years, and was cured by the application of iodide of potash by cataphoresis. This case I have already mentioned, and it is one known to most of you. I am satisfied that further investigation into this method of applying remedies, will show it to be of great value. In regard to operation, I am satisfied that in cutting open the cysts, as I did in the case above recorded, that I was exposing this patient to as great danger as if I had removed part of the gland. This was evidenced by the symptoms that developed.

Partial thyroidectomy, or strumectomy, as some call it, is recommended by many authors for follicular and fibrous goitre. Strom, of Christiana, has reported quite a number of operations with success. He also advises enucleation of the cyst for cystic goitre.

Morris, in the *Lancet*, January 5, 1895, reports two cases of multiple cyst of the thyroid gland, such as the case above reported, in which he also practised incision with satisfactory success.

Marsh, in the *Birmingham Medical Review*, reports five cases of bronchocele operated on for urgent pressure symptoms (all the cases being of comparatively short duration), in which he had good results, and he advises removal of the isthmus and as much of the lateral lobes as may be needed to relieve pressure, which is followed by atrophy of the rest of the gland.

Brooks reports two cases of partial thyroidectomy, followed by success.

Operation has also been suggested and performed by quite a number of authors for exophthalmic goitre, on the ground that it is a hyperplasia of the gland structure, and that the nervous symptoms are due to the toxic effects of the altered secretions, and a number of cases are reported. Greenfield's article in the *British Medical Journal*, December, 1893, is probably the best of these contributions. All operators, however, have come to one conclusion—that complete removal of the gland is unjustifiable, and that all operations are more or less dangerous, death on the table having resulted in a number of cases from collapse. It is doubtful that any deaths have resulted from hæmorrhage, although in some cases the bleeding is hard to control, because of the difficulty of applying ligatures to the vessels whose walls are in such a condition that ligatures will tear loose. To arrest the bleeding by packing is not satisfactory and may be dangerous. I have no doubt that, during operations on the thyroid gland, some of the fatal results were due to prolonged pressure on the pneumogastric nerve. If proper care is taken in performing the operation, the bleeding arrested as the operation proceeds, and the field kept as aseptic as possible, I believe the operation of partial thyroidectomy would be comparatively safe. Care must also be taken not to injure the recurrent laryngeal nerve. This operation has been successful in a great many instances, but there have been some failures—as is the case with all operations in surgery.

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The Southern Railway

Is the only railroad that enters the grounds of the Cotton States and International Exposition in Atlanta. Its moderate terms, delightful route, quick time, and comfortable cars should induce excursion parties to take that railway going to Atlanta and returning.

Art. X —Cycling a Cause of Prostatic Disease.

By T. A. McLAUGHLIN. M. D., of Washington, D. C.

All forms of athletic exercises which have a tendency to improve man physically should be encouraged, but the greatest discretion should be observed in the selection of them so that they may not prove harmful to the individual.

A few years ago, the appearance of a rider on a bicycle attracted universal attention, but now, since the wheel has been so generally adopted as a means of locomotion, it has become a necessity to many; and of all health-contributing machines, I know of none at the present time that promises greater benefit to the rider, with an equivalent expenditure of time, physical effort and expense.

But while admitting the many benefits to be derived from this excellent means of exercise, which developes the muscles, increases the breathing capacity, and strengthens the heart, it is also attended with certain dangers, which, on account of an improper position assumed by the rider, a bad-fitting and too rigid saddle, to say nothing of a relaxed physical condition to begin with, produces certain changes in the organs which may ultimately cause serious results.

Having observed the harm which has resulted in a number of instances, from the causes which I have enumerated, I consider it a matter of sufficient importance to bring to your attention, since we are all directly or indirectly interested in this subject, which is not to be considered a fad, but demands a proper recognition and appreciation of one of the most delightful sports at our command.

A concise report of a few of the cases may prove of interest.

Case I.—A lawyer, 30 years of age. Two years ago, he had an attack of gonorrhœa, which, under appropriate treatment, entirely subsided. He was a well-developed, muscular person, and weighed about 170 pounds. His general physical condition was excellent. He had been in the habit of taking long rides on his wheel whenever he could spare the time. During one of these journeys, which extended over a period of several days, an intense pain had been felt along the perineum, which developed while he

was riding, and frequently compelled him to get off and walk in order to obtain relief. His saddle did not fit him properly, and he attributed his distress to that cause.

When he consulted me, he complained of great pain along the perineum, with a frequent desire to urinate, and great difficulty at times in voiding the urine on account of some obstruction to its flow.

When a rectal examination was made, the prostate was found enlarged and exceedingly sensitive when pressure was applied.

The urethroscopic picture showed a general hyperæmic condition of the prostatic urethra, and the prostate had the appearance of intense inflammation.

With antiphlogistic treatment, hot rectal injections and hot compresses to the perineum, with rest and restricted diet, the disease yielded nicely without suppuration.

Profiting by his experience, he subsequently procured a proper saddle, and by confining his exercise to short rides, he has suffered no inconvenience

Case II was a well-developed man, who had made a record for speed and endurance, and had never suffered from any urethral disease.

He consulted me on account of a sensitiveness along the perineum and gradual reduction of the size of the stream of urine.

On rectal examination, the prostate was found enlarged and sensitive to pressure. The urethroscope showed an enlarged and congestive gland. The circumference of the penis was 3¼ inches (or 81 millimetres), which showed a normal urethra approximately 32 millimetres. The largest bougie which could be introduced was 17 millimetres in size. Rest and sedatives were given internally, and hot applications applied locally for a few days, and then the urethra was gradually dilated to its normal calibre.

This patient informed me that a sensitiveness along the perineum and difficult micturition was a common occurrence among riders after long rides, and speeding.

A better-fitting saddle was procured, and no further trouble ensued.

Case III was a man 32 years of age, delicate and possessed of little physical strength. He had suffered during the past year from an attack of gonorrhœa. He claims that he had entirely recovered from that attack several months before he began riding. Within a week after he

began to use the wheel, he complained of a soreness and fulness along the perineum. These sensations continued to grow worse, and were attended with a frequent desire to urinate, which after a short time became very painful, with an inability to entirely empty the bladder on account of the spasms which accompanied the attempt. In a few days, a slight discharge and swelling of the penis followed. I was unable to make an urethroscopic examination on account of the œdema, but a rectal examination showed an enlarged prostate which was exquisitively sensitive. On the under surface of the penis, on a line with the anterior margin of the scrotum, an indurated surface about the size of a chestnut was detected. He was put to bed, placed on a restricted diet, salines and sedatives given internally, and hot rectal injections, with poultices to the perineum and peri-urethral abscess. The abscess continued to enlarge and was incised, when half an ounce of pus was evacuated. The wound was dressed antiseptically, hot urethral injections were given, and the prostatic inflammation subsided. He entirely recovered, with the exception of slight induration, which continued to exist at the site of the abscess.

I have mentioned these cases with more or less detail, because they pointed absolutely to the pressure of the saddle as being the direct exciting cause of the trouble.

A number of other patients who were under treatment at the same time for strictures and chronic urethral irritation did not improve in a satisfactory manner until they were advised to abandon the wheel while under treatment.

A clipping from the *St Louis Republic*, bearing upon this subject, is so in harmony with the sentiment expressed by me, that I will read it with your consent:

"The one improvement that physicians demand before pronouncing the wheel entirely safe and healthful, the chief improvement which manufactures are now trying to produce, is a saddle that shall be wider than the ones now used, and with a shorter peak.

"The really hygienic saddle will be wide enough to extend under and support the ischial bones, thus throwing the weight of the body on the parts intended by nature to support it in a seated posture. This will prevent the dangerous pressure on the soft parts of the body caused by the use of a saddle too narrow to press the iliac bones.

"With these improvements, the only objections now raised against the wheel as a means of pleasurable exercise will be forever removed.

"The English are trying to introduce wider saddles; they find it takes a little effort to become accustomed to the seat, as a slightly different movement is required; but the reward is great, not only from the hygienic standpoint, but from the fact that the firm, natural seat thus obtained gives much more power to the stroke of the limbs, and is of special benefit in uphill work."

Now, since the wheel is constantly growing in popularity, and has come to stay, it is our duty to instruct our patients so that they may avoid the dangers and derive all possible benefit from the sport. The first consideration should be the saddle. One that does not fit properly must necessarily be uncomfortable and prove harmful.

The saddle should be constructed differently from the one in vogue, so as to take all pressure off the perineum. The patient should be directed to assume the erect position, which is healthful and graceful, and to avoid the other because it is dangerous. Where there has been any recent inflammation of the genital organs, the use of the wheel must be prohibited.

1226 *N Street, N. W.*

Vin Mariani and the South Carolina Dispensary Law.

The Dispensary law in South Carolina has of late been so rigidly enforced that many druggists were afraid to sell even medicinal preparations containing wine as one of the constituent parts. Vin Mariani has been specially exempted from the workings of the law, as shown by the following letter from Gov. Evans: "Columbia, S. C., Oct. 5, 1895. To Mariani & Co., 52 West Fifteenth Street, New York: Dear Sirs,—In reply to your favor of 30th ultimo, Gov. Evans directs me to say that you have his permission to sell the Vin Mariani, and he will exempt it from seizure in the State when not sold as a beverage. Respectfully, W. W. Harris, Clerk State Board of Control."

Art. XI.—Puerperal Sepsis, with Report of a Case—Death.*

By PAULUS A. IRVING, M. D., of Richmond, Va.,

Professor of Diseases of Children, University College of Medicine; Secretary Virginia State Board of Health, etc.

Having recently met with several phases of puerperal sepsis, and having been so unfortunate as to loose a case, I think the present, at least for myself, is a most opportune time to consider this condition of the puerperal state in all its bearings. I am aware that this theme is constantly the subject of discussion in the journals; yet, being second to none in its importance to humanity, we can well afford to give it further consideration, for I believe we learn more by our failures than those we bring to a successful issue.

Puerperal sepsis or *puerperal infection*, or the more comprehensive term, *puerperal septicæmia*, may be characterized as an acute contagious disease, occurring after labor, caused by the absorption of decomposed organic animal matter; or, in more common parlance, the absorption of the "pus-producing micro-organism," which in most cases is introduced from without—that is, due to external causes—contracted either from the obstetrician, attendants, or the patient herself. This disease can often be traced to the want of care or cleanliness on the part of the attending physician. He *may*, and *often* does, carry the contagion in his clothing, hair, or, more generally, on his hands or instruments, and communicates it to the genital tract of the parturient woman, which is in a most suitable condition for such infection. There may be some abrasion or tear, or denuded surface caused by the passage of the child in its delivery, which offers at this time a suitable nidus upon which the germ that produces this disease may lodge, germinate, develop and multiply. This mode of contamination is known as *heterogenesis*.

There is another form or mode of contamination which is often overlooked and which was but little credited in former days. I allude to *auto-inoculation* or *self-infection*, which

* Read during Session of Medical Society of Virginia in Wytheville, Va., September, 5th, 1895.

theory is often a source of consolation to the anxious and conscientious obstetrician when he recognizes the disease he has to fight and can establish this theory.

I am aware that there are not many believers in this theory or followers of this auto-infectious doctrine. Yet, I do not think that there can be any question that, in some cases—though they may be few compared with those which originate from external causes—this source of infection is latent in the parturient woman, and that she may inoculate herself. The supporters of auto-infection in the present day believe that in a small per cent. of puerperal sepsis the pathogenic germs or organisms are introduced into the uterine tract during gestation, and remain as it were in a latent state or condition until after the termination of labor, are then often absorbed from a tear in the cervix or some denuded surface of the uterus or vagina, made in the birth canal during labor, resulting in septicæmia.

This is proven by cases cited in many works and journals, and has happened, possibly, in the experience of many of you, that puerperal sepsis, either in the form of a fever, peritonitis or abscesses, has been met with in women who were never examined or attended by a physician, and where it could be shown beyond a doubt that she was auto-inoculated.

According to either of the above theories, puerperal sepsis is produced by the absorption into the system of septic matter from pieces of decomposed placenta or membranes contained in the uterus by means of the lymphatics, which are abundant in the uterus or vagina, through some breach of continuity of the tissues in the generative tract, which usually occurs during labor.

This poison is not confined or peculiar to the puerperal state—that is, it is a specific poison; for, as in pyæmia resulting from any traumatic or any surgical injury, this poison, either coming from without or originating within the genital tract of the parturient woman herself, can set up this morbid process.

For convenience of description, the causes of puerperal

sepsis may be those in which the sepsis material is contracted from without—*i. e.*, due to external sources—and are called *heterogenetic causes;* or when the patient inoculates herself, the septic material originating within the woman, and are called *autogenetic causes.*

It is not always easy to trace the source of infection when it comes from without, though any form of decomposing organic matter may start an infection, such as septic material from a surgical or suppurating wound, from the handling of the cadaver, or it may have sprung from an already existing case of puerperal fever carried by the accoucheur himself, hands of nurses or attendants, sponges, clothing, bedpans, instruments, and what not. This form may also originate from coming in contact with the exanthematous diseases, such as erysipelas, diphtheria, scarlet fever, etc. Hence, I question especially whether any surgeon treating suppurating wounds, or physician attending such cases, has the right to jeopardize the life of a lying-in woman by being with her during her confinement. I assert that he ought to be prohibited from attending obstetrical cases. I am aware negative results have, in the hands of many of us, followed from such service, but they prove nothing; yet, the next time it is done, it may result disastrously to the patient. For solace and comfort, he may barricade himself behind the autogenetic doctrine.

Modern research and investigation go to prove that the immediate and direct cause of sepsis is the species of bacteria, called streptococci pyogenes, which is the bacterium that produces suppuration. It is often associated with the staphylococcus, which is the bacterium usually found in abscesses. These two kinds of bacteria are usually associated together in puerperal sepsis. The streptococcus has been found in the saliva, in the nasal secretions and in the vaginal and urethral mucus; yet, it always appears when "the normal condition of the tissues is disturbed by some morbid process."

The streptococcus produces well-defined "characteristic inflammatory processes." "When it reaches the valves of the

heart, it causes endocarditis; on entering the lymphatics of the cutis, it gives rise to erysipelas; if transplanted to the endometrium of a lying-in woman, it causes puerperal sepsis, and if admitted to the serous cavities or the cutaneous tissues, it produces purulent changes here also."—(Fraenkel.)

While these are the bacteria to which most cases of puerperal affections are attributed, yet the bacillus coli communis, the gonococcus and the bacillus of tetanus have been found in the suppurative secretions of puerperal cases, which could be traced to these causes.

Puerperal infection by the bacillus coli communis is likely to occur when there is a low state of the vital powers, and is most apt to appear in women who live in the crowded tenement districts of a city, in unhygienic sourroundings, in women who are overworked and impoverished, and who are prone to rheumatic complication. Antiseptics are indicated in this class of cases, especially so if the heart is liable to be affected secondarily.

As illustrative of pure septic inoculation without any inflammatory complication whatever, I will relate the following case:

Mrs. B. was taken in labor the night of December 21st about 10 P. M., this being her sixth confinement. Labor progreessed slowly but naturally during the night. Bowels moved several times before I reached the house, and the bladder had acted freely. A female child was delivered the next morning about 11 A. M. Chloroform was administered during the expulsive pains, everything being natural; and without my having to put my hand in the vagina to remove it, the placenta came away in its entirety in about fifteen minutes after the birth of the baby, due solely to the expulsive power of the uterus, which was active and strong.

She continued to do well for thirty minutes, when she became very much alarmed and told me she was going to die; that she felt very faint, etc., exhibiting the usual signs of post-partum hæmorrhage. Without loss of time, having first washed my hands in a bichloride solution, I made a vaginal examination and found the uterus extending nearly to the umbilicus and filled with clots, which I emptied with-

out difficulty, and soon got the womb well contracted and firm, employing the usual means—one hand in the vagina irritating the os, and the other externally kneading the fundus through the abdominal walls. I also administered ergot and alcoholic stimulants. The patient reacted well in about two hours. She continued to do well, the lochia being free and red in color, with occasional after-pains for eight or ten hours. The morning of the third day, I directed the usual dose of castor oil.

About 10 A. M. on the third day, I was hastily summoned to the house, the messenger saying that my patient had taken a tablespoonful of turpentine instead of castor oil. I found her very much excited and alarmed; ordered an emetic, which soon provoked the emesis; was able to detect and smell the turpentine in the vomited matter. After getting her quiet, I left.

In about three hours I was recalled to her. I found that the oil and turpentine had produced free catharsis and much debility, four or five actions—the last just as I got to the house being involuntary. The stomach being irritable, I ordered an enema of starch and laudanum, which checked the diarrhœa at once. The milk made its appearance in the breast during the next few hours, and she reacted from this excitement readily and without untoward symptoms. I saw her every day, making particular inquiries each day about the lochia and whether or not there was any tenderness or soreness in the pelvic region.

She did well, regaining her strength and nursing her baby, until the seventh day after labor, when I called to see her about 12 M. I found her comfortable, bright, and happy, and left her saying that I would call again in a few days, thinking it was really my last visit.

But about 4 P. M. of this seventh day, I was called through the telephone by her husband, saying that there was something wrong with the discharges, asking me to see her during the evening. I responded to the call, and, after watching her closely for a few minutes, saw that quite a change had come over my patient. I found, on examining the napkin, that it was very wet, as if she had passed water on it, which she was positive was not the case; she had two or three of these thin watery colorless discharges. I soon satisfied myself that they were from the uterus. I ordered hot applications, hot turpentine stupes and water bags, a purgative of castor oil (ʒj), and spirits turpentine (ten drops), and hot vaginal douches (about one gallon of hot

water and a teaspoonful of carbolic acid) every two or three hours. There was not a particle of soreness or tenderness in the pelvic region, for which I examined very closely, fearing septic complication. I ordered the continued use of the hot vaginal douches and hot applications for twenty-four hours.

At this time, the eighth day after labor, there was a slight mucus discharge with some odor. I now determined to use more radical measures. With carbolized sterilized water and a new return-current catheter and a new syringe, I washed out the uterus, through a speculum, bringing her hips to the edge of the bed. Temperature in the mouth at this time was 101°. By the next morning it had fallen to 100°. She continued to do well, temperature (mouth), remaining at 100° morning and evening; expressed herself as feeling well and comfortable. I ordered generous diet and three grains each of quinine and phenacetine every three to four hours.

On December 31st, I found the temperature had run up to 101°. I then decided to give another intra-uterine injection, which I did about 7 P. M., using, as I did before, carbolic acid in sterilized water with the same return-current catheter. After getting the os into view through the speculum, pulling it down with a tenaculum, I again passed the catheter into the uterus, which went in not as readily as before, but with some slight resistance. After pressing the bulb three or four times, she screamed out suddenly that she was blind, that she was going to faint, exhibiting evident signs of shock. I quickly withdrew the catheter, lowered her head, and applied restoratives. She was herself again in fifteen to twenty minutes. I made her comfortable, and left in about an hour.

At 9 P. M. that night, two hours after the last intra-uterine injection, she had a decided and severe chill, and afterwards a rise of fever, but passed a fairly comfortable night.

I saw her the next morning as early as I could, and found the temperature 104° by the mouth, cheeks flushed, skin hot and dry, considerable thirst and distressing nausea when anything was taken into the stomach. At 2 o'clock of the same day her temperature in the mouth was 104°; in the vagina, 106°. After a hot carbolized douche of sterilized water, there being a slight mucus discharge, no appreciable odor, not enough pus in it to be called purulent, I cleaned out the uterus, could find no retained membranes, applied pure carbolic acid to the excoriated *os*, which, on one side,

was covered with a dirty diphtheritic patch; packed the uterus with iodoform gauze, saturated freely with iodoform and glycerine, and the vagina also. Gave 15 grains of bisulphate of quinine by enema every four hours, sweet milk and lime-water and meat-juice every two or three hours by mouth; if stomach continues irritable, then give milk, egg, and whiskey by the bowel every four hours. This treatment was continued, supporting her strength, as you will see, from the start.

The next day the iodoform gauze was removed, and hot vaginal carbolized douches given every three hours. Again touched the *os* with carbolic acid. Continued this line of treatment until Sunday, January 6th, the temperature remaining as high as 104° or 105° in the vagina; then began sponging with alcohol and water to reduce the temperature. This was continued for several days, producing no effect; then resorted to the ice cap and sponging with ice-water every two or three hours, and, by this heroic treatment, was only, as you see from examining the record, able to keep the temperature down to 104°, which would run back to 105° and 106°, if treatment was remitted in the least.

This was rigidly adhered to, endeavoring to keep down the temperature with ice-water, and occasionally an enema of ice-water, which, instead of being a shock to her—although the weather temperature was below the freezing point—seemed to give her relief, and was a great aid in controlling the nervous symptoms as she was literally being consumed by the high temperature.

Purgative used—Calomel and Epsom salts.

Stimulants—Whiskey (alcohol), aromatic spirits of ammonia, sulphate strychnia, and digitalis, as indicated.

Morphia hypodermically, and laudanum in starch enemata, to control the bowels and relieve restlessness; it also acting as a stimulant.

Nourishment, in the form of soups, but principally milk, meat-juice (Valentine's), and eggs, and milk by enema when the stomach was irritable. The patient's stomach never gave way, although she became unconscious thirty-six hours before dissolution took place.

She took milk and whiskey up to the last, death ending the scene at 2 P. M., January 13th, 1895, twenty-three days after labor.

The lessons I draw from this case are these:

1st. Look out for troubles of this character, in cases where there has been *post-partum* hæmorrhage. In my opinion it

is a danger signal; it shows a weakness on the part of nature, and it is well to take every precaution against *septic inoculation.*

2nd. If the temperature reach 103°, do not simply rely on vaginal douches or intra-uterine flushings, unless the temperature falls almost immediately, or in 12 to 15 hours. I would advise the prompt use of the dull curette, use it thoroughly, then flush out the uterine cavity with a hot bichloride solution, using, if possible, sterilized water if it can be gotten, following this with a hot saline solution.

3rd. If, on examination, you find a tear or abrasion in the perineum, vagina, or uterus, curette and repair it thoroughly, and then touch it with pure carbolic acid, pack the uterus or vagina with iodoform gauze, soaked in 25 per cent. of glycerine and iodoform. If the temperature should not fall in twenty-four hours, or if it should fall and rise again, either you did not do your work well, or you overlooked some point of infection or focus of inoculation. Then the curettage should be done over again, and this time I would use the sharp curette so as to be certain of getting away all the infected tissue. Of course, the curettement should be done asseptically.

If, under this treatment, the symptoms do not improve, and it is evident that infection is still going on, the temperature and the general condition of your patient being your guide, some eminent authorities claim that hysterectomy is the only means of saving your patient's life, and in many cases is indicated, and should be done promptly, but as to the advisability of this operation there is some question.

4th. Don't rely on the temperature taken in the mouth; it is deceptive. In these cases, it does not indicate the true condition of your patient, whose mouth is often open and who is taking cold drinks; you can't get a true temperature record under these circumstances. It should be taken in the vagina or rectum; it will usually register from one to two degrees higher here. This will hold good in all very ill patients.

5th. *Lacerated Cervix.* Before closing, I wish to say that

I think every woman, after labor, should be examined thoroughly, to see if there is any tear in the cervix, for if left to itself it is often the focus of infection, and I believe they should be repaired at once. A lacerated cervix is often the source of hæmorrhage, also. Illustrative of this point, I had a case a few days since of post-partum hæmorrhage, where the uterus contracted down well after the placenta was expelled. I left, after staying an hour or so, thinking all was well. Was called back in a few hours; found excessive hæmorrhage had taken place, which I could not account for, the fundus of the uterus being contracted and firm, except to a lacerated cervix. On examination, the hæmorrhage continuing freely, after bringing the os well into view, I found a lateral tear in the cervix an inch or more in length, which of course explained the cause of the hæmorrhage. The tear was repaired by a few stitches and the hæmorrhage promptly checked. Hence, I think it well to make a thorough examination, to see that all is well before leaving our patients.

I append the temperature record, which is of interest on account of its high record, showing the length of time one can live with such a temperature—although you remember that she was sponged with ice water and given enemata of ice-water; only by this heroic treatment could I keep it down to these figures.

TEMPERATURE RECORD.

Jan. 2—	2 p.m., 106⅘	5 p.m., 105⅜	10 p.m., 106	.....	.....	.....	.....
" 3—	1 a.m., 105⅝	4 a.m., 104⅝	7 a.m., 105	12 m., 104⅝	3 p.m., 105	9 p.m., 105⅜	
" 4—	1 a.m., 104⅝	5 a.m., 105	8 a.m., 104⅝	12 m., 103⅜	4 p.m., 104⅛	8 p.m., 104⅜	
" 5—	1 a.m., 103⅛	4 a.m., 103⅜	8 a.m., 104⅘	12 m., 103⅜	4 p.m., 104⅘	10 p.m., 104⅜	
" 6—	1 a.m., 104⅜	4 a.m., 104	10 a.m., 104⅝	12 m., 104⅝	4 p.m., 104	9 p.m., 104⅜	
" 7—	1 a.m., 104	4 a.m., 104⅜	9 a.m., 103⅝	2 p.m., 103⅜	4 p.m., 105⅜	9 p.m., 105	
" 8—	1 a.m., 104	4 a.m., 104	9 a.m., 102	2 p.m., 106⅛	5 p.m.. 104⅞	9 p.m., 104½	
" 9—	1 a.m., 103½	4 a.m., 104	9 a.m., 103	2 p.m., 105⅜	5 p.m., 105⅜	9 p.m., 104⅛	
" 10—	1 a.m., 103⅜	4 a.m., 103½	9 a.m., 101½	2 p.m., 103	5 p.m., 105⅛	9 p.m., 105	
" 11—	1 a.m., 104	4 a.m., 104	9 a.m., 103⅝	2 p.m., 103	5 p.m., 102⅜	9 p.m., 102⅜	
" 12—	1 a.m., 104	4 a.m., 104	9 a.m., 103	2 p.m., 102⅜	5 p.m., 103⅜	9 p.m., 104⅜	
" 13—	1 a.m., 102⅛	4 a.m., 104	9 a.m., 104	12 m., 104	.....	.....	

Art. XII.—The Uses and Abuses of Opium.

By W. H. RIBBLE, Jr., M. D., of Wytheville, Va.

Many who attended the session of the Medical Society of Virginia, 1894, no doubt remember the discussion of this subject, which arose at the meeting in connection with the treatment of appendicitis—how vehemently one of America's greatest surgeons condemned the use of opium, and how valiantly one of our older professional brethren defended this time-honored boon to suffering humanity. The one would strike opium from the pharmacopœia, and the poppy plant from the face of the earth; the other, without opium in some form, is as a soldier without a sword or gun —stripped of that with which he fights man's greatest enemy—pain.

There was once a violinist of note, whose fiddle had but a single string. When asked why he didn't play on five strings, he said, "Life is too short to master one." Having become master of this one string, he would tell all other violinists that more than one is useless; but many a savage breast would lose that charm, should all of those who draw the bow depend upon a single string to make them music. *Yet*, many there be who play on many strings, but fail to soothe the savage breast.

It is well known in science that in simplicity lies perfection, and we can but admire the man who can stand before this intelligent body* with a little scalpel in his hand, and tell us honestly and earnestly that with it he can find and remove all of those pains which human beings suffer. We must all admit that many a time when medicine has failed us, would we like to feel that confidence and ability which would enable us to take the scalpel in hand and go in search of the offending disease. But, alas! we general practitioners cannot depend upon any one remedy in our daily contact with many and various kinds of people, diseases

*This paper was prepared to be read before the Medical Society of Virginia, during its session in Wytheville, September, 1895, but was not submitted.

and circumstances; nor should we endeavor so to do, for "from Nature's chain, whatever link we strike, tenth or ten thousandth, breaks the chain alike." But we *may always*, by carefully linking together cause and effect, removal of cause and cure, and carefully discriminating between disease proper and symptoms of obscure disease, learn to follow nature's chain, link by link, until we find the *broken link*, and there apply the right amount of the right thing to mend the broken one without injury to those connected thereto.

By reference to the United States Dispensatory, we find that opium is a stimulant narcotic. It increases the force, fulness and frequency of the pulse, invigorates the muscular system, excites the mental faculties, and has so decided action on the brain that intoxication or delirium is produced. In a short time this excited state is superseded by a placid calmness, which shows that the sensory nerves have been paralyzed and the mental faculties placed in oblivion to all governing or depressing circumstances or conditions; the individual being left calm, quiet, and fanciful, to be thrown by morphine into the arms of Morpheus.

But, alas! there is always a hereafter. When the ball is over, we must go, with heavy eyes and weary brains, and pay the fiddler. Just so, when this tranquility from an opiate has passed away. "The soporific effect having continued for eight or ten hours, goes off, and is generally succeeded by more or less nausea, headache, tremors and other symptoms of *diminished* or irregular nervous action, which, however, soon yield to *recuperative energies* of the system; and, unless the dose is frequently repeated, and the *powers of nature* worn out by over-excitement, no injurious consequences ultimately result."—(*U. S. Dispen.*)

With this vivid picture so clearly printed in one of our principal guides, does it not seem that "a wayfaring man, though a fool, should not err therein?" Yet, most of us do. Do I mistake when I judge others by myself, and say that most frequently it is a lack of thorough diagnosis, and

careful consideration of after effects of remedies, which make us so frequently err in the use of this and other active drugs? When our patients are satisfied and show grateful appreciation of our ability, we are satisfied and *puffed up*, and *feel* that we are as wise and infallible as they think we are. Hence, the great temptation, with frequent yielding, for us to use and do those things which *show*, and elicit this satisfaction to ourselves. We go to see patients who are suffering; they feel that ease from pain is all they want. If we give this quick, they think us great. When the little shot of morphine which we have given them, and which has for a time cast a veil over the cause of pain and destructive progress of this cause has passed off, they summons us again in haste. We find, in addition to what we found at first, nausea, headache, restlessness, nervous relaxation and loss of moral reason and self-control. If we have not previously satisfied ourselves as to the nature and extent of the disease causing pain, we *now* have the *real* symptoms, so changed bv the effects of opium that a clear diagnosis is almost impossible. In our dilemma we satisfy the patient and shift our responsibility to the shoulders of fate, by repeating the hypodermic. Thus, many a case of inflammatory rheumatism, enteritis, appendicitis, peritonitis, puerperal fever, mastoid and other abscesses, and in fact any serious disease, may go so far as to maim or destroy, while both patient and physician have been rendered ignorant of its progress; and nature's channels for eliminating poisons, the secretions, placed at rest and rendered inactive by repeated doses of opium.

What is pain but nature's alarm bell, telling us of impending danger—a nerve impressing upon the higher centre the fact that harm or destruction is threatening? Are we faithful, true and trusty sentinels, if we, without finding and removing the impending danger, muffle this faithful bell, and soothe our patient to rest with an opiate, ignorant of the danger which prompted the now deadened nerve to cry so loud for help? Nay! Let us first destroy the enemy,

and then we may legitimately place the injured parts at rest and leave nature, unimpeded, to do her recuperative work. If we have thus removed that which has produced discord in the human economy, it will not be necessary to repeat the dose of opium till the powers of nature are worn out by over-excitement; and no injurious effects may be apprehended from its use.

There appear to be two other principal actions of opium which are overlooked at times, and prove detrimental. They have been alluded to before, and are suppression of the secretions and the demoralizing effect which we see subsequent to having the nervous equilibrium unharrassed. This suppression of secretions is a property which alone makes opium invaluable to us, but one which we should ever bear in mind when using the drug for other effects. Even more carefully should we watch and guard against that increasing desire which chronic sufferers acquire for the soothing, deceptive and intoxicating effects which they feel. Those of us who see "cured patients" of our own and others, sending first one servant and then a different one to all the drug stores, in routine order, for laudanum, opium, morphine, etc., may well stop and say, "The last stage of that man is worse than the first."

In the ball-room or parlor, when we see a lady with lines of pain and past suffering stamped upon her countenance, but apparently in high spirits with bright eyes, and loud and ringing voice, we should stop and think—what is she coming to? A chronic sufferer drifting through life on a bright and pleasing poppy leaf, which carries its deceived victim slowly but surely to physical and moral destruction.

The Second Pan-American Medical Congress

Will be held in the city of Mexico during Christmas week, 1897.

Clinical Reports.

Case of Knotted Cord Causing Death of Fœtus.

By W. H. BARTON, M. D., of Abingdon, Va.

Being called to a woman not long since, said to be in labor, the first case in my experience of a knotted cord presented itself on delivery of a dead fœtus. The placenta immediately followed the birth of the child.

It appears that a month previously, when six-and-a-half months pregnant, the fœtal movements that had been lively, seemed to grow feeble and soon ceased altogether. The woman, before confinement at seven-and-a-half months, stated that it was her belief that the child was dead. Fœtus showed symptoms of having been dead for some time—the tissue being softened and the epidermis peeling off when handled. The cord had shrunk and the knot was drawn tight enough to impede all circulation, while the placenta, left attached to the fœtus, was small, shriveled and softened. I believe this woman appreciated the death of the fœtus when strangulation of cord took place; and changes in her previous good health were said to have then begun to occur. Intra-uterine injections were not used, but prompt advance was made with antiseptic vaginal washings and carefully applied antiseptic napkins to vulva.

Thorough cleanliness should always be insisted upon in obstetrics and antiseptic cloths to vulva, and it is my rule to give 12–15 gtts. tinct. ferri chlor., with 3 grs. quinine, to every woman after confinement for five or six days.

For Bronchial Spasmodic Coughs.

The *Journal of the American Medical Association*, Nov. 2, 1895, gives the following as "an old favorite":

℞.—Tinct. benzoin comp..... 20 (f. ℥v.)
Tinct. opii camphor..... 20 (f. ℥v.)
Tinct. cannabis indicæ..... 5 (min. lxxv.)

M.—S.: Ten to twenty drops on loaf sugar as occasion may require.

Correspondence.

Words Not Usually Found in Medical Dictionaries.

Mr. Editor,—An article (October number *Virginia Medical Monthly* by Dr. Irving C. Rosse, under the title of "Words Not Usually Found in Medical Dictionaries," attracted my attention, and I read it with a great deal of pleasure. I would have given something handsome to have seen the study in scarlet and white depicted on the countenance of that know-it all book agent when the Doctor met his challenge so promptly and so much to the discomfiture of both himself and his dictionary. I only wish we were all as capable of meeting the conceited assertions of the ordinary traveling man with such confounding proofs of the defectiveness of his wares as the Doctor was able to bring against this particular dictionary.

I think, though, the definitions offered by Dr. Rosse for some of the words are, in a few cases, not altogether correct, and in others not sufficiently elaborate.

I do not refer to any of the words in the list of local, tribal, or provincial names of remedies and diseases as, for instance, *adanto blaka*, used by the negroes of the Gold Coast to indicate a parasitic disease common to animals, or *hota*, Polynesian for acute bronchitis, pneumonia, and pleurisy. We can hardly expect to find such words in any Anglo-Saxon dictionary, medical or otherwise. But such words as *banaustic*, as the Doctor has it, correctly spelled *banausic*, derived from the Greek (banausikos), mechanics (banausos), mechanical, and therefore the word *banausic* signifies merely or entirely mechanical.

And then *eurygnathous*, Dr. Rosse says, means "large-jawed," but, strictly speaking, it is more specific in its meaning, for the correct definition of the word is wide, prominent, *upper* jaw.

Dysnoia, "heavy, gloomy thought." The best dictionaries define this word thus: "Obstructive of correct understanding, preventing, intuitive perception—of evil temper" from (*dys-*) hard or bad, and (*noso*) think. Bad thoughts.

Mesological, not only relating to environment, but the effect of environment on races, as, for example, the effect of the white race on the negro in this country in its more specific sense, the influence of the speed of one race upon that of another.

Metempirical.—Lying beyond the bounds of experience—not derived from experience, opposed to *empirical.*

Quass, or *Koass,* is not exactly Alaskan whiskey, but a Russian beer made by the fermentation of rye, called *Rye beer.*

The exact word *cycadean,* or *cycadeous,* cannot be found in the dictionaries; but *cycad* and cycadex can, and they mean palm or fern-like plants; and the botanist uses the word to indicate fossil plants resembling *ferns* or *palms.*

Although many of the words used are not strictly medical, they should be in every medical dictionary.

Quass is undoubtedly used in sickness as a remedy, and it would be perfectly correct to call treatment with a splint or truss mechanical or banausic treatment.

Very truly, W. H. BAKER, M. D.

702 *Church Street, Lynchburg, Va.*

Proceedings of Societies, Boards, etc.

RICHMOND ACADEMY OF MEDICINE AND SURGERY.

[*October 8th, 1895.*—DR. MARK W. PEYSER, *Reporter.*]

Treatment of Goitre.

Dr. Joseph A. White made some *Remarks on Goitre, with Report of Cures.* [See page 835.]

DISCUSSION.

Dr. Chas. M. Shields remarked that up to five or six years ago he had been treating goitre with electrolysis by the labile method—a pole on either side of the tumor. In two cases, a cure was permanent. Three-quarters of the cases in girls occur at puberty, and as these cases get well any way, it is doubtful that the cure was the result of electrolysis. For the last four or five years the doctor has been treating goitre by cataphoresis as described by Dr. White. In these cases, the results were good. In the first case, the neck was reduced one and one-half inches—to its normal. In the second there was marked improvement, but reduction was not complete. The third had been treated previously,

and reduced one and one-half inches. Under Dr. Shields' treatment, reduction was permanent. Another case was that of a young Italian affected by goitre for eight years. He had been treated in Italy by injection and electrolysis. The growth was cystic, and looked suppurative. Counter-puncture was done, and the tumor washed out every other day with peroxide of hydrogen. It was larger than a hen's egg, but now there is no perceptible enlargement. Results, as a whole, however, are such as never to make him promise permanent cure.

Dr. Jacob Michaux said that in doing a tracheotomy in a child with diphtheria he was obliged to go through the isthmus of the thyroid gland; and the amount of hæmorrhage ensuing made him fear greatly for the safety of the child.

Dr. W. W. Parker never fails to stop goitre in the formative stage by a blister applied every ten days.

Dr. J. W Henson spoke of the operation of opening the deep fascia and stitching it to the integument.

Dr. White, in closing, stated that he had listened to the remarks with interest, that he had only known the evening before that he was to be called on to open the discussion on goitre, and that he regretted the brevity and necessary incompleteness of his remarks, limited, as they were, mainly to his own experience, and his recollections of what others had said and written in relation to bronchocele; but that he would try to reply to the gentlemen who had spoken on the subject he had introduced.

In regard to Dr. Michaux's remarks as to the *danger resulting from cutting through the isthmus*, he had learned from experience that this was one of the traditions in the profession used to scare timid operators like the nursery ghost stories to quiet refractory children. He had often, in doing tracheotomy in a hurry, to open the trachea without regarding the isthmus; and whilst he had seen considerable bleeding, which usually stopped on inserting the tube, he had never seen a dangerous hæmorrhage. Once he was called at midnight to a man who had been apparently suffocated by the pressure of an enormous goitre, and was obliged to open the trachea by candle-light as quickly as possible. Dr. M. W. O'Brien, of Alexandria, assisted him on that occasion, and he cut directly through the centre of a fibrous goitre three inches thick without regard to hæmorrhage until he reached the trachea, which was opened, and the man resus-

citated by artificial respiration. Even then the hæmorrhage, whilst considerable, was not dangerous in amount.

He was glad to know that Dr. Shields' experience with the cataphoretic action of electricity had been favorable, but did not think it necessary to put the remedy on both poles, as the positive pole was the active agent in inducting the remedy into the tissues. He thought also Dr. Shields' idea of electrolysis was rather different from the common acceptation of that term, inasmuch as he seemed to confound the passage of the *constant current* through the growth or galvanism with the constructive action of the negative pole introduced directly into the tumor, the term *electrolysis* referring only to the latter method.

Dr. Parker's experience with goitres was more favorable than his own, especially in the lucky circumstances that he always saw them just in their incipiency when counter-irritation with blisters was sufficient to cure them. All the goitres he had ever seen were well developed tumors of long standing when the case applied to him. On one occasion, however, he had seen an enlargement of the thyroid gland cured by a blister. It was a case of non-suppurative thyroiditis—the only one he ever saw which developed so rapidly in a very short time as to threaten suffocation. He at once applied an ointment of red iodide of mercury and iodide of potash all over the front of the neck, producing an enormous blister, in a few hours promptly relieving the patient. Meanwhile he sat by expecting at any time to be obliged to open the trachea.

Dr. Henson was quite right in saying he had seen a report of merely opening the deep fascia in goitre, as it was an operation suggested to relieve the dyspnœa from pressure of the glands on the trachea, but Dr. White has never seen a case of cure recorded from this method, although it was quite within the bounds of probability that after relieving the pressure of the fascia upon the gland atrophy of the gland might have ensued. Therefore, it is not at all improbable he had seen a report of a case cured by this opertion, although it was performed merely for the relief of suffocative symptoms, and not to cure goitre.

Texas Medical News

Is the changed name of the *Texas Sanitarian*, Austin, Tex.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Meeting of October 14th, 1895, Washington, D. C.

Dr. Elmer Sothoron read a paper—

Things we should Remember in the Application of the Forceps.

[See page 830.]

Discussion.

Dr. Moran said that the essayist had given the necessary precautions to be observed in the application of the forceps. That the lives of numberless infants had been sacrificed and thousands of mothers rendered invalids by their untimely and ignorant use, was, unfortunately, too true; hence the importance that the operator should have a thorough knowledge of how and under what conditions to apply these most useful of all surgical instruments. They should be used only under the most aseptic conditions possible, and the greatest care and gentleness should be exercised in introducing them. Traction should be made slowly in the axis of the pelvis, and only during pains. In most cases one pair of forceps is sufficient, and the more the operator accustoms himself to their use, the better would be his success.

Dr. W. Sinclair Bowen said that while he firmly believes in the value of the obstetric forceps, he is afraid there is some tendency among busy practitioners to apply them too early in the course of labor, especially in primipara. A slow labor may be entirely safe, provided there is some progress and the presenting part does not press too long upon the soft parts at any one point. He recalled a case which came under his notice some months after her labor. A woman twenty years of age (primipara) had a tedious second stage, and her attending physician reported that the vertex seemed to be wedged in the pelvic canal six hours in one position. As she was in a country district, some distance from town, no instruments could be obtained. As the result of such long pressure, the recto-vaginal septum had entirely sloughed away. This case fully illustrates the danger of the other extreme—namely, waiting too long.

Dr. J. T. Kelley said that great care should be taken not to apply forceps unless absolutely necessary, as much harm may be done even if skilfully used, the gynæcologist getting the result, in lacerated cervices and ruptured perinei, which have opened up avenues of sepsis, as well as disease of the

pelvic organs. Sepsis is from without, usually; so we cannot be too antiseptic in our precautions, both with hands and instruments. In hospitals, patients are examined as little as possible, for somehow we seem to be unable to prevent infection after much continued manipulation of the parts.

Dr. Bovée said he did not think tears of the cervix and perineum were, by any means, always due to forceps. We were unjust if we so considered them, even in cases where forceps were applied. Many tears are caused by the natural forces—probably three fourths of them are caused by such forces. The same instrument can be used for both high and low operations. He does not believe in using the vaginal douches, either before or following the delivery, in private patients as a routine practice. Their use is often assigned to incompetent women who are liable to infect the patients in the process. During the past five years, he does not recollect using the vaginal douche in labor for antisepsis outside of hospital work. Our instrument should be aseptic both before its application and during its use, and the perineum can be better protected by the forceps than by any other means known to him. Our women are not competent for parturition, as a rule, and forceps may often render great aid in careful hands, even though their use be not imperative.

Dr. Carr said forceps may be used with great advantage to both mother and child We should not delay their application in suitable cases. He has never seen harm follow their use where there is no serious obstruction. Civilization is really exterminating the human race, especially in cities. Statistics give the life of cities as three generations, unless reinforced by emigration from the country. Savages suffer less from septic infection in labor by reason of the life they lead, making them stronger and more rugged. There are few dangerous varieties of germs on the plains. The activity of the leucocytes is greater—that is, the serum more antiseptic in the squaw than in the civilized woman.

Dr. E. L. Moran said forceps have been used from antiquity, but not those at present in use. Difficult labor has been treated among the savages in one way or another, such as by shaking the legs or bouncing in a blanket. He thinks forceps are very often used unnecessarily. He often wondered whether civilization had any part in causing difficult labor. The Laplander, the negro and the squaw have no trouble in labor. They are notoriously filthy, and no attempt

is made at asepsis. He believes forceps are used entirely too often.

Dr. Bishop said, possibly squaws acquired an immunity to septic infection by reason of their filthy lives.

Dr. Sothoron, in closing, said he was not an advocate of the habitual use of the forceps, but only in suitable cases. Traction should be made in the proper direction, and with care and judgment.

Analyses, Selections, etc.

Detective Injections (1) Tuberculin; (2) Mallein.

The *Veterinary Journal, etc.* (London), August, 1895, extracts an article by M. Ed. Nocard (in *Recueil de Med. Veter.*) which is highly instructive.

1. *Tuberculin*, an extract from cultivations of the bacillus tuberculosus. After remaining six weeks in a stove at 37° C. (98° F.), the cultivations are sterilized at 110° C. (230° F.) to kill all the bacilli they contain; then concentrated in the hot bath to one tenth their original volume; then filtered on "Chardin" paper. This gives a dark-brown syrupy liquid, exhaling that odor of flowers peculiar to cultivations of tuberculous bacilli in glycerinized media. The broth used for cultivation contained 5 per cent. glycerin; the tuberculin obtained after concentration and filtration, 50 per cent. This explains why it may be preserved almost indefinitely if kept away from heat and light.

When hypodermically injected in tuberculous animals, tuberculin markedly raises their temperature—thus diagnosing their disease, however recent and limited their lesions may be. In non-tuberculous animals, no appreciable reaction occurs. Tuberculin injection is always inocuous—in no way affecting the quantity or quality of the milk of cows, nor interfering with gestation even if about to calve.

For ordinary use, dilute tuberculin to one-tenth in 5 per cent. carbolized water. Inject at one time beneath the skin behind the shoulder 3 to 4 c. c. of the dilution (3 c. c. for medium cows, 3.5 for large cows, 4 for bulls and high-class animals). Take temperature of animal before injecting; then every two hours, beginning at the tenth hour until the twentieth hour after injection. If time presses, take

temperature at twelfth, fifteenth and eighteenth hour. The *diagnostic reaction* is measured by the difference between the initial temperature and the highest temperature noted after injection. If this exceeds 1.5° C. (2.7 F.), the animal is tuberculous.

If the animal at the time of the proposed injection is feverish, it is better to defer. It is also important to remember that in very tuberculous cows—those phthisical in the proper sense of the word—injection of tuberculin may produce no rise of temperature whatever; but there is no difficulty in such cases—the clinical diagnosis being always very easy.

2. *Mallein* is to glanders what tuberculin is to tuberculosis. Its mode of operation is identical. After sterilizing the cultivation in the autoclave (a pot for cooking, with a tight-fitting lid to prevent evaporation), and concentration in the hot bath, the glanders-cultivations in glycerinized broth are filtered in "Chardin" paper. We thus get "raw" mallein—a dark-brown syrupy liquid of somewhat fœted odor. In practice, mallein is diluted 1:8 or 10 of .5 per cent. carbolized water.

In a glandered horse, characteristic reaction follows subcutaneous injection (in neck or behind shoulder) of a very small quantity of mallein (¼ c. c. raw mallein, 2 cent. mallein diluted 1 in 8, or 2½ cent. of dilution of 1 in 10). In a few hours, at the place of injection there forms a hot inflammatory swelling, distended, very painful, always voluminous, sometimes enormous. From all sides of the tumor, there radiate wavy lymphatic streaks, hot and painful when touched, stretching away towards the adjoining ganglious. When mallein is aseptic and aseptically injected, this swelling never suppurates, but enlarges during 24 to 36 hours, and persists for several days; then slowly diminishes and disappears in 8 or 10 days. With the growth of the swelling, the patient becomes dull and dejected, face shrunken, eyes have anxious look, the coat lusterless and staring, flanks contracted, respiration hurried; appetite suspended; frequent shudders pass through muscles of the forelegs—sometimes even the trunk is subjected to violent convulsive shocks. One is struck with the wretched look of the animal, his stupor, his complete prostration. The most active or fractious or dangerous horse is completely transformed—is listless and indifferent to all his surroundings. These general phenomena constitute "the organic reaction." They are not always so clearly marked; but the *thermic* reaction never fails to show itself if glanders exists.

In a few hours, central temperature gradually rises 1.5°—2.5° or more above normal. The rise in temperature, noticeable even about eighth hour after injection, attains its maximum between the tenth and twelfth hour, or even fifteenth hour—more rarely eighteenth hour. The phenomena produced by the injection persist a long time; after 24—even 48 hours—prostration exists, and the temperature remains more than one degree above normal. The temperature of the suspected animal should be taken before injection of the mallein; then every two hours, beginning at eighth and going on to twentieth hour after injection.

In healthy horses, injection of much larger doses of mallein remains without effect, beyond a little œdematous swelling at the point of injection, which rapidly disappears in 24 hours. When the injection thus remains without effect, the animal is not glandered, whatever be the appearance of the suspected lesion.

When the reaction of mallein injection shows its specific effect as described, glanders lesions exist, even when they are quite minute. But it would be imprudent to employ mallein in animals already fevered. Furthermore, animals under test must be removed from atmospheric variations and the influence of strong sun heat, fog, rain, wind, etc., for some horses are susceptible to these influences, causing variations of temperature of 1.5° to 2° or even more. Nor should we forget that certain diseases, as strangles, frequently produce great daily variations in temperature. Hence, when we have a disease of this kind present, we must be sure that the increase of temperature consequent on injection of mallein, is persistent, and that the "organic reaction" is clearly present.

The writer advises against the immediate killing of animals found by mallein to be glandered, for of these animals some, when removed from the infected centre, and thereby withdrawn from all chance of new contamination, recover from the glanderous pulmonary lesions. We ought to confine ourselves to killing those which, *in addition* to the reaction, present some clinical indication of the disease, such as ulceration of the nose, indurated glands, suppurative lymphangitis, sarcocele, etc. The others must simply be removed from amongst the healthy animals and subjected from time to time—say every two months—to the mallein test. If they stand two successive doses of mallein without reacting, they are definitely cured and can be restored to their work. If any respond to the test, and show the clinical signs of glanders, they ought to be slaughtered at once.

Death of a Man from Glanders.

The *American Veterinary Review*, September, 1895, records the death in Brooklyn on August 4th of Joseph Hopkins—his death certificate assigning glanders as the cause. His horse had been running down in flesh, and he was administering an alterative in the form of a bolus. In doing so, his hand was slightly lacerated against the horse's teeth, but he continued to treat him. Hopkins' nostrils began to discharge, but the true nature of the ailment was not suspected, and he went about the horse as before, frequently sponging out the discharge with no precaution. Meantime the horse grew worse, and "farcy buds" showed themselves upon the hind extremities. About this time (July 10th), Hopkins was seized with a chill, and took to his bed; his physician diagnosed "threatened typhoid fever," afterwards modifying it into "malaria." On the 15th, the horse was destroyed by an officer of the Society for the Prevention of Cruelty to Animals, he exhibiting the cardinal symptoms of glanders and farcy. The owner of the horse gradually grew worse, and on the 31st another physician was called, who, with the history of contact with his diseased horse, and now rapidly developing local symptoms, at once made out a diagnosis of "glanders," and the patient died on the morning of August 4th—having been unconscious for about forty-eight hours. The local symptoms are stated by the physician to have consisted of a chain of suppurating lymphatic glands along the outside of one leg, swelling of the feet, nodules upon the brow and neck and at other points about the body, discharge from the nostrils, and physical symptoms of glanderous pneumonia. The temperature is stated to have never exceeded 103° F., though the patient received antipyretics whenever it reached that registry.

Ready Bedside Test for Albumin.

Dr. J. G. Truax, New York, N. Y. (*Jour. Amer. Med. Assn.*, Nov. 2nd, 1895,) describes his method, which he has used without disappointment over a year:

Pour into a test-tube an inch of urine; with a dropper, drop carefully upon the surface of the urine half its quantity of alcohol. If albumin be present in the urine, a white line will form between the two fluids, the same as in the cold nitric acid test.

The other method is to put the alcohol in the test-tube first, and drop, as before, the urine into it. If albumin be

present in the urine, it will be made known by a white wave of coagulated albumin following the urine as it sinks to the bottom of the test-tube. The urine being heavier than the alcohol, will gravitate to the bottom of the tube very quickly. After a small quantity of urine has been added, the alcohol will become opaque with the coagulated albumin. This test is so sensitive that the one hundredth of 1 per cent. of albumin, when present in the urine, can be detected.

Mucus will be coagulated if it be present, and may be mistaken for albumin. Filtering before testing will eliminate mucus; if one is still in doubt, any of the control-tests for mucus can be made. No other ingredient of abnormal urine will give any trouble, more than when any other method for testing urine is employed. Alcohol, if of the strength of 60 per cent., when clear, will answer every purpose, excepting one of delicacy.

A glass tumbler may be used when it is impossible to obtain a test-tube. No heat, no acids required. So convenient is the test that the physician cannot be excused if he fails to discover the presence of albumin.

Any doubts which may remain in one's mind can be removed by control-tests. Few of us rely upon one single test, by whatever method made.

Tendon Grafting: A New Operation for Deformities following Infantile Paralysis, with Report of a Successful Case.

At the meeting of the New York State Medical Association, October 15, 1895 (*Med. Rec.*, Oct. 26), Dr. Samuel E. Milliken, Surgeon-in-Chief of the New York Infirmary for Crippled Children, etc., presented a boy 11 years of age, upon whom twenty months before he had successfully grafted part of the extensor tendon of the great toe into the tendon of the tibialis anticus muscle, the latter having been paralyzed since the child was 18 months old. The case showed the advantages of only taking part of the tendon of a healthy muscle, which was made to carry on the function of its paralyzed associate, without in any way interfering with its own work. The brace which had been worn since the boy was 2 years of age was left off, the patient walked without a limp, the talipes valgus was entirely corrected, and the boy has become quite an expert on roller skates. Dr. Milliken predicts a great field for tendon grafting in these otherwise hopeless cases of infantile paralysis, who heretofore have been doomed to the wearing of braces all their lives.

Book Notices.

Pathology and Surgical Treatment of Tumors. By N. SENN, M. D., Ph. D., LL. D., Professor of Practice of Surgery and Clinical Surgery, Rush Medical College, etc. *Illustrated by 515 Engravings, including Full Page Colored Plates.* Philadelphia: W. B. Saunders, 1895. Large 8vo. Pp. 709. Cloth, $6; half Morocco, $7. (Sold only by Subscription).

The distinguished author and surgeon illumines every subject he touches with a light that gives simplicity to the heretofore most difficult points. It would seem that his richness of description comes rather from careful study of subjects that have engaged his attention than from what others have written. Thus more than one hundred of the illustrations are original, and are drawn as far as practicable from nature. A matter of great value is that, "for the purpose of simplifying diagnosis, a special effort has been made to trace every tumor to its proper anatomical starting point and histogenic source, and to make a sharp histological and clinical distinction between true tumors, inflammatory swellings and retention cysts." He adopts the classification of tumors which accords with the theory of their origin, as set forth in this book. It is impossible to specialize the chapters of greatest importance in a work that covers all sorts of tumors; but we know of no book that so clearly discusses the subject of carcinoma, and gives such practical methods for diagnosis and treatment; the same may be said of the section on sarcoma; indeed, we feel like saying the same of each subject discussed, for it all seems so valuable and so completely up to date. The author adopts a style of italicising the sentences in a paragraph which gives the central idea. It makes the work exceedingly useful to the reader. While the index is correct, it might be well to introduce many more cross-references, so as to assist in ready reference to a point connected with a subject. As to style in which the work is issued, we cannot see how any publisher could do better work. In placing this book on the market, Mr. Saunders has spared no expense in the printers room nor in the reproduction of original drawings, many of which are colored. This work is to take rank in the future as the standard, as Billroth, Ziegler, Shakespeare, etc., have done in the past. It is a book that every educated doctor should have, in order that he may unlearn many of the teachings of the past and prepare himself in accordance with the revelations of pathology of to-day.

Climate and Health. Edited under the Direction of PROF. WILLIS L. MOORE, Chief of Weather Bureau, by W. F. R. PHILLIPS, M. D. *Number One. A Summary of Statistics for the Four Weeks Ended July 27, 1895.* Washington: Weather Bureau. 1895. Pamphlet. 4to.

This is No. 1 of Vol. I of the periodical devoted to climatology and its relations to health and disease. It is presented under the auspices of the U. S. Department of Agriculture, Weather Bureau, as being almost wholly experimental in the sort of information it contains, and as an earnest of future endeavor. The journal is not in competition with any journal published in this country, but is intended as a help to doctors and journalists interested in the questions of health and disease and death, as related to climate and section. The present No. 1 has 25 pages of text, beside five full-plate charts, representing by the graphic system the prevalence of winds or storms, the rise and fall of diseases and death as affected by such variations, etc. After this periodical has been kept up a year or so, every one interested in the details will then deem it an almost invaluable publication. We welcome the ably conducted periodical, believing that its issue will prove a great blessing to humanity, etc.

Washington: or, The Revolution. A Drama. By ETHAN ALLEN. *In Two Parts. Each Part, Five Acts.* F. Tennyson Neely, Publisher, Chicago and New York. 1895. Paper, 12mo Pp. 210. Price. 50 cents.

It is seldom a medical reviewer is favored by a work like this for notice; but few are better readers of literature than the cultivated doctor. The author under notice is well known in the literary world. In this production, he founds the drama upon the historic events of the war for American Independence. He did not prepare it to present upon the stage, but he adopted the style in order that he might the more vividly bring out the facts which impressed him as the important principles involved in the declaration. True, a stage drama may be evolved from this revolutionary story; but the ten acts, as here presented, with all the important personæ dramatis connected with the period of 1776, are much too long for even serial presentation in any theatre in the country. Part I concludes with the surrender of Burgoyne at Saratoga Heights. If Part II proves as thrilling in detail, no one can read it without the feeling that he is passing through the scenes described. The object of Mr. Allen is to confront the corruption in politics at the present day by the record of the virtues and the valor of the Revolutionary Period.

Text-Book of Physiology. By M. FOSTER, M. A., M. D., LL. D., F. R. S., Professor of Physiology University of Cambridge, etc. *Sixth American Edition—Thoroughly Revised, with Notes, Additions, and 257 Illustrations.* Philadelphia: Lea Brothers & Co. 1895. Large 8vo. Pp. 929. Cloth, $4.50; sheep, $5.50.

This edition is a great improvement over that of 1893, being about 150 pages smaller, without the sacrifice of a single important sentence in that edition. Some new figures have been introduced, but useless verbiage has been omitted and considerable liberty taken with the text. Histological details, except of the nervous system, as given in former editions, have been abridged, much that was too theoretical omitted; but such alterations and additions have been made as to bring the book up to date in every respect. The great popularity of the work is shown by the fact that each edition is rapidly exhausted, and that it is included as a text or reference book in nearly every medical college annual announcement. New matter is included, for the most part, in brackets, while a careful comparison—page by page—of this with the fifth edition, shows that the omitted matter from the sixth was unnecessary text. For physician, student or teacher, this is and long will remain the standard, up-to-date work on physiology. It needs no recommendation beyond its own merits to establish its claim as *the* physiological text-book of the day. The print, paper, binding, indexing, etc., are all good.

Hand-Book of Medical Diagnosis for Students. By JAMES B. HERRICK, A. B., M. D., Adjunct Professor of Medicine, Rush Medical College, etc. *With 80 Illustrations and 2 Colored Plates.* Philadelphia: Lea Brothers & Co. 1895. Cloth. 12mo. Pages 429. Price, $2.50.

This is an excellent hand-book on diagnosis. If students in colleges could be induced to read such monographic works, it would be a great assistance to them. The volume before us is compiled chiefly from the standard works on the subject, and the sections or chapters are about as concisely written as the matter will allow. After an introductory on examination of the patient, etc., the author starts off with the infectious diseases; then diseases of the digestive, the respiratory and circulatory systems; the constitutional diseases; diseases of the kidneys, etc.; of the nervous system; of the spinal cord and its coverings; of the brain and its coverings, and functional nervous diseases. Useful tables of differential diagnosis, and illustrations of diseases, etc., are introduced in several places. Works on chemistry, bacteriology, microscopy, etc., have also been quoted.

Text-Book on Nervous Di eases by American Authors. Edited by FRANCIS X. DERCUM, A. M., M. D, Ph. D., Clinical Professor of Nervous Diseases, Jefferson Medical College, etc. *With 341 Engravings and 7 Colored Plates.* Philadelphia: Lea Brothers & Co. 1895. Large 8vo. Pp. 1056.

This is a great book, well edited, and admirably adapted to the wants of the general, as well as the special practitioner. The design and execution of the work command our most hearty recommendation. The Editor contributes several valuable chapters. We recognize the study of an able neurologist in the chapters by Dr. Landon Carter Gray on functional tumors, paralysis agitans, and epilepsy. But we need not individualize, since we recognize among the 20 other authors to this volume such eminent names as Drs. Dana, W. W. Keen, C. K. Mills, S. Weir Mitchell, Wm. Osler, Fred. Peterson, de Schweinitz, Sinkler, M. Allen Starr, Jas. C. Wilson. The articles by Drs. Brill, Burr, Collins, Fisher, Herter, Jacoby, Knapp, Lloyd, Oliver, and Prince, are none the less able and authoritative. While some of the names given as authors are not as familiar to Southern doctors as some who reside and practice in the South and West, still each one who has written for this volume brings himself into conspicuous, worthy authorship—showing that where experience is wanting research and study have been given the subjects which enable them to speak as writers of authority. There is no class of practitioner that will not find in this wonderful book something to interest him in its special line. The subjects are fully enough discussed so far as what is known about them is concerned.

Pathology and Treatment of Venereal Diseases By ROBERT W. TAYLOR, M. D., Clinical Professor of Venereal Diseases College of Physicians and Surgeons (Columbia College(, New York, etc *With 230 Illustrations and 7 Colored Plates.* Philadelphia: Lea Brothers & Co. 1895. Large 8vo. Pp. 1002. Cloth, $5.50; Leather, $6.50.

This great and authoritative work is essential to the library of every class of practitioner. The physician, the surgeon, the gynæcologist, the obstetrician, and every character of special practitioner of medicine, need it. There is no other one volume on the venereal diseases in the English language that we know of that is comparable to it in value. It teaches lessons that, while not new to specialists in venereal diseases, must revolutionize the doctrines and the therapeutics of many middle-aged and older doctors. And yet in every detail of opinion or of practice the author checks excesses in dogmatism by a commendable conservatism. Most thoroughly does he impress the importance of gonorrhœa and its complications—giving 400 pages to the subject

—showing that neglected or badly treated urethritis is a serious disease. Sufficient evidence is also adduced to show that "It is possible for a man to have a urethral discharge containing true gonococci which he contracted from a woman who never had gonorrhœa." Furthermore: "During menstruation (or during its wane), some perfectly pure and healthy women at times give men typical gonorrhœa"—showing Neisser's gonococci. The above statement may be news to some who have not kept up with the literature of gonorrhœa, but it is too well sustained by records to permit denial. As to chancroid, proof is brought forward to show that it is not due to a distinct poison or virus, but "that it may be developed under certain circumstances *de novo*," or from many different pyogenic processes. Hence if the Ducrey-Unna bacillus is the morbific agent of chancroid, it is nothing more than a pyogenic microbe. Syphilis is a specific disease, and requires a specific treatment. About 500 pages are devoted to the subject in all of its phases. Fifty pages are given to miscellaneous affections often more or less related to the three venereal diseases—such as vegetations, horny growths of penis, cancer of penis, elephantiasis of the genitals, varicocele, hydrocele, hæmatocele, etc.

Text-Book of Practical Medicine. By ALFRED L. LOOMIS, M. D., LL. D., Professor of Pathology and Practical Medicine in Medical Department of the University of the City of New York, etc. *Eleventh Edition—Revised and Enlarged. With 207 Illustrations.* New York: William Wood & Co. 1895. Large 8vo. Pages xvi—1134. Cloth.

America was never able to claim a more gifted and thorough medical teacher than the lamented author of this book. He had nearly completed its revision when death summoned him to rest from his labors; so that but little was left for others to do before giving the MSS. over to the Publishers. It goes without the saying that this work, "designed for the use of students and practitioners of medicine," is arranged as systematically as a text-book on so vast a subject could be. The views presented may be said to be up to date, although, with reference to some points of treatment, the author seems a little more doubtful as to the value of some almost specific agents than other practitioners. Thus, in acute rheumatism, he states "for the past few years I have seldom employed" the salicylates, for "relapses are almost certain to follow, and the duration of the disease is not shortened." Certainly, such is not the experience of the vast majority of able physicians in our immediate section. As to diphtheria antitoxin, Dr. Loomis died before

the great army of general practitioners was able to render its report, as at present being published in the journals, which is certainly in its favor. But with reference to descriptions of diseases, as they are actually seen, and with reference to physical signs, points of diagnosis, etc., there is no text-book that is more explicit or accurate. In every such respect, the practitioner, the teacher, or the student, may almost blindly adopt this text-book as authority. Dr. Loomis was pre-eminently a student of the natural history of diseases, and thus established for himself a fame as a diagnostician that but few ever enjoyed. His book is so admirably adapted to the needs of the class-room that we regret the issue of this eleventh edition was not made in time to find it more generally mentioned in College Catalogues as their text-book or reference-work. Its richness in apt illustrations adds much to the value of the work as a students' guide.

Science and Art of Obstetrics. By THEOPHILUS PARVIN, A. M., M. D., LL.D., Professor of Obstetrics and Diseases of Women and Children, Jefferson Medical College, etc. *Third Edition. Carefully Revised. Illustrated with 269 Wood cuts and 2 Colored Plates.* Philadelphia: Lea Brothers & Co., 1895. 8vo. Pp. 685. Cloth, $4.25; leather, $5.25.

The announcement that the third edition of *Parvin's Obstetrics* is issued, that nearly one-third of it is re-written, and that it is published in good style, ought to be sufficient to exhaust any usual edition. We have in this volume a work equally useful as a text-book for practitioners and students. The author writes in a manner calculated to impress his points or facts upon his readers. Puerperal fever is treated in thorough detail, and we are glad to see that the author holds to the term, since none so comprehensive and generally descriptive has been introduced. Rupture of the womb in pregnancy and childbirth, although admirably discussed on pages 551–560, inclusive, is not indexed; in fact, the index is poor. The articles on natural labor, ectopic gestation, instrumental delivery, etc., are all rich in information and in good advice, and the instructions read as the productions of a finished writer. A special value of *Parvin's Obstetrics* consists in the care given to descriptions of anatomy, details of physiology, and to all the essentials connected with the progress of pregnancy and with the management of natural labor. To thoroughly understand these things makes it easy to comprehend the treatment of the dystochiæ.

Urine in Health and Disease, and Urinary Analysis, Physiologically and Pathologically Considered. By D. CAMPBELL BLACK, M. D., L. R. C. S., Edin., Professor of Physiology in Anderson's College Medical School, etc. Philadelphia: Lea Brothers & Co., 1895. 12mo. Pp. 246. Cloth. $2.75.

This is a first rate manual on the subjects indicated in the title. The author points out that many of the minutiæ described in various text-books on urology are devoid of practical bearing, and many of the constituents described as existing in the urine "may be regarded as the curiosities of the chemist's laboratory." In brief, he aims at the treatment of the subject from the practical and chemical standpoint. Hence we find chapter I devoted to the anatomy and physiology of the kidney; chapters II and III describe the normal elements of the urine and how to distinguish them; chapters IV and V describe abnormal constituents of urine, show how to test for them, tell the pathological significance, etc.; chapter VI is taken up with examination of sediments in acid and in alkaline urine. To determine the chemical composition of a calculus is the subject of chapter VII, and the detection of medicaments and accidental elements in the urine engages the last or chapter VIII. The work is well arranged. It is worth while to remark that, while Dr. Black states that a fluid drachm equals 3.54 c. c., Witthaus, Bartley and others estimate a fluid drachm as 3.70 c. c.

Treatise on Nervous and Mental Diseases. By LANDON CARTER GRAY, A. M., M. D., Professor of Nervous and Mental Diseases in New York Polyclinic, etc. *Second Edition Revised and Enlarged. With 172 Illustrations and 3 Colored Plates.* Philadelphia: Lea Brothers & Co. 1895. Large 8vo. Pp. 733. Cloth, $4.75; Leather, $5.75.

Few books have had so flattering a reception as did the first edition of this *Treatise*, published just two years ago. If that edition was so favorably taken by the profession, this second should have a wider demand. Then the author was new as a book-maker; now he has experience. Able then as a neurologist, his opportunities have now added much to the result of his studies. In general, so practically well does he teach what is known of nervous and mental diseases that we find but little that we can criticise. The volume is divided into three parts. Part I has two chapters—the first of which covers about 90 pages, and is up to date in anatomical description of the brain blood-vessels, cranial topography, heat centres, etc. In fact, a thorough understanding of this anatomical chapter is an essential to nearly all subsequent studies of the diseases of the brain or nervous sys-

tem. Part II contains 22 chapters on nervous diseases proper—including a chapter on Railway Injuries and Other Traumatic Diseases of Medico-Legal Interest. As to hydrophobia, the author is still skeptical—the chapter on this subject in the first edition being practically unaltered. There is gradually coming over the profession a conviction that the disease does occur in the human subject—each year adding here and there a case from the practice of honest, good-observing physicians of this section. Part III has 21 chapters on mental diseases, which cover about all the principal disorders or diseases of the brain. We take pleasure in informing our readers of the issue of this second edition, which is well-published, and has but few typographical errors. The book is well worth its cost to every general practitioner as well as specialist.

Clinical Lectures on Diseases of the Nervous System By W. R. GOWERS, M. D., F. R. S., Physician to National Hospital for the Paralyzed and Epileptic, London. Philadelphia: P. Blakiston, Son & Co., 1895. Small 8vo. Pp. 279. Cloth. $2. (For sale by The J. W. Randolph Co., Richmond.)

This book possesses a value to the general practitioner far exceeding that which comes from a glance at the title. It impresses upon the reader the importance of always seeking first the fullest knowledge of the diseased conditions in any given case, regardless of any preconceived name, and thus arrive at the cause, and the natural consequences or results. It points out the means of arriving at a diagnosis, and impresses the importance of accuracy in such diagnosis. To the neurologist, it is invaluable. For, while the scope of diseases considered is very limited, each one is described in most perfect detail. The subjects presented for clinical remarks are perhaps too few to satisfy the specialist in nervous disease. But the thoroughness of the study of the cases teaches volumes which will ever be valuable to general practitioners. The chief subjects considered, selecting from the *Contents*, are: Argyria, syphilis, syphilitic hemiplegia, bulbar paralysis, facial paralysis, facial contraction after palsy, acute ascending myelitis, locomotor ataxy, foot clonus and its meaning, syringo-myelia, treatment of muscular contraction, infantile causes of epilepsy, neuralgia, lead palsy, saturnine tabes, and optic neuritis. Such a work as this, filled up with something valuable on every page, should have had a thorough index; it has none. And yet he who is paying even general attention to nervous diseases should get the book and read and often refer to the clinical lectures.

Manual of Organic Materia Medica. *A Guide to Materia Medica of the Vegetable and Animal Kingdoms.* For Students, Druggists, Pharmacists and Physicians. By JOHN M. MAISCH, Phar. D., Professor of Materia Medica and Botany, Philadelphia College of Pharmacy. *New (Sixth) Edition, Thoroughly Revised by* H. C. C. MAISCH, Ph. G. 12mo. 526 pages. *With 285 Engravings.* Cloth, $3.00. Philadelphia: Lea Brothers & Co., Publishers, 1895.

Maisch's *Materia Medica* is too well established in the favor of pharmacists, druggists and botanists to need introduction The present edition is revised by an able son of the distinguished author, who died just as the former edition was issued. While new matter has been added, so as to incorporate advances since the edition of 1892, and the whole work has received careful revision, so as to conform to the U. S. Pharmacopœia of 1890, still there has been no increase in the size of the volume—due chiefly to the slight increase in the size of the page. The illustrations, where defaced or not perfect in former editions, have been recast, and some new ones introduced. The great value of the work is the simplicity of style and the accuracy of each description. It considers each article of the vegetable and animal pharmacopœia under the heads of origin, habitat, description, constituents, properties, dose, and, where important, sections on antidotes, etc., are added. Several useful tables are incorporated—the one of chief importance being the classification of drugs arranged according to their origin, etc. The index seems to be perfect.

Physical and Natural Therapeutics. By GEORGE HAYEM, M. D., Professor of Clinical Medicine in the Faculty of Medicine of Paris. *Edited by* HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, etc. *With 113 Illustrations.* Philadelphia: Lea Brothers & Co., 1895. Cloth. 8vo. Pp. 428. $3.

Such a work as this, thoroughly compiled, would be of the greatest service to doctor and patient. It treats of the remedial uses of atmospheric pressure, climate, heat and cold, hydrotherapeutic measures, mineral waters and electricity. We must say that the nearly 200 pages, which treat of electricity solely from the point of view of the practitioner of medicine, furnish a chapter that is more practical, more simply stated, and more valuable to the physician than any one that has come under our notice. The work does not deal with drugs, but with all the recognized potent remedies which are outside of the treatises on Materia Medica. In the enumeration of valuable American mineral waters, we are at a loss to understand why the distinguished editor omitted from prominent mention the Buffalo Lithia Springs of Virginia. The value of the

waters from these Springs is so conspicuous in cases of gout, lithæmia, gravel, dyspepsias of various forms, etc., and is so well recognized by able practitioners of large experience all over this country, that we feel that an important omission occurs in the text which should be remedied if ever a second American edition of this work is called for, which we hope will soon be demanded. The Part on hydrotherapeutic measures is excellent—showing how and when to apply the treatment, the results to be looked for, etc. This book should be in the hands of physicians everywhere, for they constantly see the need of prescribing change of climate, mineral waters, electricity, etc.

Disorders of the Male Sexual Organs. By EUGENE FULLER, M. D., Instructor in Genito-Urinary and Venereal Diseases in New York Post-Graduate Medical School, etc. Philadelphia: Lea Brothers & Co., 1895. 8vo. Pp. 241. Cloth.

This comes as near being an original work as any of recent date. It relates to matters of every day importance to practitioners, and therefore will be bought by them. It is singular how far this field of useful investigation has been left behind in the progress of science, authors generally contenting themselves to rehash the psychological side, and dismissing the subject with the hackneyed lessons obtained from so-called standard works. The nearly 50 well illustrated pages devoted to anatomy and pathology, as well as the over 20 pages given to pathology, represents for the most part original work and research, and form an essential feature. Chapter V, on differential diagnosis, follows chapter IV, giving clinical features often enough recognized in general practice. Chapter VI is on treatment and prognosis, while the concluding chapter (VIII) gives striking illustrative cases. The seminal vesicles engage very much attention. The author sums up his views in the following sentence: "Trouble located in the sexual apparatus, and primarily, at least, largely independent of nervous conditions, is the chief cause of sexual disturbance in the male; and the various neuroses and psychological conditions stand in the order named as other causes." It is not so much on the importance of the material presented in the chapter on differential diagnosis that we would comment; but it does seem to us that a different system of paragraphing would very much add to the value of the work for ready reference. The Index should be fuller. While the book will be eagerly read by the practitioner, many of the valuable points will be long overlooked by the physician who reads and intends to refer again to the book.

Editorial.

Southern Surgical and Gynæcological Association.

The Eighth Annual Meeting of this Association of great men will be held in Hotel Shoreham, Washington, D. C., November 12th, 13th, and 14th, 1895. Members of the medical profession are cordially invited to attend. Those who attend the meeting should obtain from the ticket agent, at the point of starting, a certificate that they have paid full fare to Washington, which certificates will be signed by the Secretary of the Association in Washington, and upon his certificate a return ticket may probably be issued at one cent per mile. The following are the officers: *President*, Dr. L. McL. Tiffany, Baltimore; *Vice-Presidents*, Drs. Ernest S. Lewis, of New Orleans, and Manning Simons, of Charleston, S. C.; *Secretary*, Dr. W. E. B. Davis, Birmingham, Ala.; *Treasurer*, Dr. Richard Douglas, Nashville; *Council*, Drs. Geo. J. Engleman, St. Louis; Hunter McGuire, Richmond; W. D. Haggard, Nashville; Bedford Brown, Alexandria; L. M. McMurtry, Louisville. Dr. Joseph Taber Johnson, of Washington, D. C., is Chairman of the Committee of Arrangements. Each morning session will begin at 9:30 A. M.; the afternoon session at 2:30 P. M.

After the Address of Welcome Tuesday morning by Dr. H. C. Busey, papers will be called for in the following order—a discussion being invited of each paper:

Case of Gun-shot Wound of the Brain—Removal of Bullet—Recovery, by Dr. W. E. Parker, New Orleans; Personal Experience in the Treatment of Stab Wounds of the Intestines and Peritoneum, by Dr. Bedford Brown, Alexandria, Va.; Report of Five Cases in Abdominal Surgery in which the Murphy Button was applied, by Dr. A. VenderVeer, Albany, N. Y.; Resection and Intestinal Anastomosis, by Dr. H. Horace Grant, Louisville, Ky.; Cæcal Hernia, with Report of Cases, by Dr. W. O. Roberts, Louisville, Ky.; Necrosis of the Ribs in Three Cases, Resultant in Typhoid Fever, by Dr. W. L. Robinson, Danville, Va.; Surgical Interference in Rectal Disorders, by Dr. J. McFadden Gaston, Atlanta, Ga.; Cancer of the Pregnant Uterus, by Dr. Geo. H. Noble, Atlanta, Ga.; Hysterectomy for Fibroids, by Dr. E. S. Lewis, New Orleans, La.; Abdominal Hysterectomy, by Dr. Joseph Price, Philadelphia, Pa.; the Technique of Supra-Vaginal Hysterectomy, by Dr. Howard A. Kelly, Baltimore, Md.; Some of the Reasons for Preferring Vaginal to Abdomnal Section for Pus in the Pelvis, by Dr. Joseph Taber Johnson,

Washington, D. C.; Indications and Technique of Vaginal Hysterectomy, by Dr. Geo. H. Rohé, Cantonsville, Md.; Hysterectomy for Puerperal Sepsis, by Dr. A. M. Cartledge, Louisville, Ky.; Management of Cases which have Recovered from Appendiceal Abscess in which the Appendix was not Removed, by Dr. J. D. S. Davis, Birmingham, Ala.; Mental Complications as a Result of Surgical Operations, by Dr. J. T. Wilson, Sherman, Tex.; Comparative Frequency of Stone in the White and Negro Races, by Dr. George Ben. Johnston, Richmond, Va.; Report of Cases of Cystotomy for Stone, by Dr. W. F. Westmoreland, Atlanta, Ga.; Parapharyngeal Tumors—Remarks on Their Anatomy, Location and Operative Treatment (from Three Observed Cases), by Dr. Christian Fenger, Chicago, Ill.; Uninterrupted Anæsthesia in Face and Mouth Operations, by Dr. Edmond Souchon, New Orleans, La.; Annual Address of the President, by Dr. Louis McLane Tiffany, Baltimore, Md.; Dr. J. Marion Sims and His Work—a Sketch—by Dr. John A. Wyeth, New York, N. Y.; the Management of Intestinal Complications in Intra-Pelvic Operations, by Dr. L. S. McMurtry, Louisville, Ky.; Vaginal Incision and Drainage in Pelvic Inflammation, by Dr. J. W. Long, Richmond, Va.; Abdominal Pregnancy, by Dr. Cornelius Kellock, Cheraw, S. C.; Report of a Case of Extra-Uterine Pregnancy, by Dr. John T. Henry, Chester, S. C.; Endometritis, by Dr. James T. Jelks, Hot Springs, Ark.; Fractures at Elbow Joint, by Dr. J. B. Murfree, Murfreesboro, Tenn.; the Telephonic Bullet Probe, by Dr. A. H. Buckmaster, University of Virginia, Va.; Surgical Hyperpyrexia, by Dr. Geo. A. Baxter, Chattanooga, Tenn.; Cholecystenterostomy, by Dr. W. B. Rogers, Memphis, Tenn.; Surgery of the Biliary Ducts, by Dr. W. E. B. Davis, Birmingham, Ala.; the Technique of the Buried Suture, by Dr. Henry O. Marcy, Boston, Mass.; the Use of Subcutaneous Saline Infusion in Shock and Hæmorrhage, by Dr. Geo. H. Rohé, Cantonsville, Md.; Report of Cases of Tracheotomy for Foreign Bodies in the Trachea, by Dr. W. F. Westmoreland, Atlanta, Ga.; Abscess of the Lung, by Dr. Jas. A. Goggans, Alexandria City, Ala.; Report of a Case of Ligation of the Common Iliac Artery—Recovery—by Dr. W. E. B. Davis, Birmingham, Ala.

Prizes to be Awarded During Session of Medical Society of Virginia, 1896.

We are pleased to state that *Dr. Hunter McGuire*, of Richmond, Va., renews the offer of a *Prize of One Hundred Dollars* under conditions that have heretofore prevailed for

the best Essay deemed worthy of a prize on "*The Status of Semi-Therapy*," to be awarded during the session of the Medical Society of Virginia to be held in Danville, Va., during the fall of 1896. This Prize is open to competition by members in good standing in either the Virginia, the West Virginia, or the North Carolina State Medical Societies, of each of which Dr. McGuire is an Honorary Member.

Drs. Joseph Price, of Philadelphia, and *Herbert M. Nash*, of Norfolk, Va., jointly offer a *Prize of Three Hundred Dollars* for the best Essay deemed worthy of a prize on "*The History of Medicine and Surgery in Virginia*," to be awarded during the session of the Medical Society of Virginia in Danville during the fall of 1896. This Prize is open to competition by Fellows of the Medical Society of Virginia. For two years past, these distinguished Honorary Fellows of the Medical Society of Virginia have jointly offered a prize of $200 for such a history, but thus far none of the Essays offered in competition has come up to the standard set by the Committee of Examination. In order to stimulate more satisfactory research, these gentlemen have increased their joint offer to $300.

All Essays offered in competition for either of the prizes referred to are to be the property of the Medical Society of Virginia. A fuller detail of conditions, etc., will be given in the *Transactions of the Medical Society of Virginia, Twenty-Sixth Annual Session*, held 1895 in Wytheville, which volume is now in press. Advertisement of the offers in detail will also be published in this journal next month.

The University of Virginia Fire, October 27,

Was felt all over the South especially as a personal distress. Fortunately, however, the Medical Department was not specially injured. Of course the Legislature of Virginia will make ample provision for the rebuilding of those parts that were destroyed, while generous gifts from every section of the country will no doubt for a long time continue to be made to restore such libraries, works of art, etc., as money can replace. We trust, after all, that this conflagration, destroying over $125,000 of property, and many paintings, manuscripts, books, etc., that can never be restored, will prove a blessing in disguise, in that the contributions from the State and individuals will be amply sufficient to rebuild with all approved modern improvements, etc.

The Virginia Medical Semi-Monthly

Will be the changed title of the *Virginia Medical Monthly*, when the new annual volume begins in April, 1896. We have no desire now to review the history of this journal during its nearly twenty-two years of monthly issue. It should be gratifying to the patrons of the *Monthly* to know that it has steadily grown in subscription patronage in every section. The character of the papers published and the general reputation of the authors speak for themselves. In changing the *Monthly* to the *Semi-Monthly*, we yield to the wishes of patrons who have been its generous supporters in the past. In making the proposed change, the subscriber will not be the loser in quantity or quality of the amount of regular annual reading matter. We trust our subscribers everywhere will take enough interest in the journal to inform any of their interested friends of the change; and as the new year is so soon to begin, we shall hope that many a new subscription will be sent in, to indicate general approval of the proposed *Semi-Monthly*.

In the advertising department of our next issue, fuller details of the proposed change will be given.

Tho Virginia Hospital to be Enlarged.

The Medical and Surgical Staff of the Virginia Hospital, Richmond, corner of Clay and Eleventh streets, is furnished by the Faculty of the University College of Medicine. Although established a little over two years ago, it has become so popular with the profession of West Virginia, Virginia, and North Carolina especially, that it has become impossible promptly to furnish rooms or beds to many applicants for treatment. The necessity for increase of accommodations became so apparent that it has been determined to add buildings and wards enough to accommodate at least 125 more patients. Plans of the additional buildings, with sick rooms, wards, etc., are about completed; bids will be considered in a short while, and early in December, if not sooner, it is probable the builders will be at work, which will be pushed to completion as rapidly as the weather will permit. The plans of construction are such as will not interfere with the comfort of patients who may be in their present rooms or wards.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 8. WHOLE NUMBER, 260.

RICHMOND, DECEMBER, 1895.

Original Communications.

Art. I.—Seventeen Cases of Chronic (Relapsing) Appendicitis Treated by Operation.*

By HUNTER McGUIRE, M. D., LL.D., of Richmond, Va.,

Ex-President and Honorary Fellow of Medical Society of Virginia; Professor of Clinical Surgery in the University College of Medicine, etc.

It will be seen that ten of the cases reported were females, and seven males. Sixteen were private cases, and one operated on in the amphitheatre of the University College of Medicine; fifteen cases were operated on in St. Luke's Home (my private hospital), and one was operated on in a private house; this last was the fatal case, and the only fatal case of operation for chronic appendicitis that I have had.†

The series of cases embraced operations performed in the interval between the attacks, when all, or nearly all, of the inflammatory symptoms had disappeared—operations done during the quiescent stage, as was originally suggested

* Read before the Medical Society of Virginia September, 1895.

† I have operated on three other cases of chronic appendicitis, but the records of these cases are too imperfect to justify reporting them. These three cases recovered.

some years ago by Mr. Frederick Treves. In the series there is not included any case of acute or other form of appendicitis.

You may have seen from the report of my cases that I am not always in a great hurry to operate, but that I am inclined to wait for the more acute symptoms to wear off, and operate, if at all, after suppuration has taken place, or during the quiescent stage, between the attacks.

There are some cases of *appendicitis so slight* that I am satisfied they belong to the doctor and not to the surgeon; very often they are not recognized by the practitioner as appendicular trouble, but put down as bilious colic, localized peritonitis, kidney colic, etc. Under rest, purgation, hot applications, rigid diet, leeches, and the very moderate use of opium, these cases recover, and, in very many instances, stay well. In some of these cases, if, after the attack, you could look at the appendix and structures around it, you would see evidences of inflammation in the shape of slight thickening, induration, and adhesions. If you will examine subjects in any large dissecting-room you will find frequent specimens of this kind. These slight cases of appendicular trouble are not cases for operation. A man's usefulness is not impaired, nor is his life usually shortened by it; indeed, he often gets on through life better than the man with a crippled leg, or the poor fellow who lives for years with a crippled heart. I wish my voice was strong enough, just here, to call a halt to the men who say that, in all cases of appendicitis, you must operate. They say, "Operate at once, not this afternoon or to-morrow, but now," in all cases where the disease is recognized.

There are cases, however, when the disease, instead of abating, grows worse, the temperature gets higher, the pulse more rapid, the lump in the iliac region is larger, the belly is more tender, and possibly a rigor comes on. A slight pitting œdema in the skin over the region of the appendix is sometimes seen. The fluctuation tells us that pus has formed, and the whole aspect of the case is changed. I know I subject myself to severe criticism when I say that,

even now, I am not in all cases in a hurry to operate. Possibly the disease has been going on for some days, as is often the case, before the consulting surgeon is called; the symptoms are not so urgent, fluctuation not very distinct, and the barrier of lymph containing the pus is probably strong. I am not in a hurry to operate, because a certain proportion of these cases may get well without it. Recovery is not always impossible, even after some matter is supposed to be present, or is actually there. Years ago, when I knew less about this subject than I do now, I have punctured the *abscess about the appendix* with the needle of an aspirator, and pumped out some of the pus, and afterward seen the man get well and stay well. One case was that of a Presbyterian preacher in Richmond, whose appendicial abscess I aspirated several times. He is well, and at work now. I don't pretend that this is good surgery, or that I would resort to it at this time; I introduce the fact now to show that recovery may take place after matter has formed. I have seen more than one instance of this, and I have even thought that the violent inflammation rendered the patient free from a second attack. This is certainly not impossible. If a large number of cases of appendicitis are examined, it will be found that a large majority of these cases never have a second attack. It is true that delay in operating may end in the barrier being undone, and purulent irruption into the peritoneal cavity ensue. I have never seen this occur after the third day. I have, however, seen matter burrow down towards the pelvis and bladder, and upward towards the liver. Sometimes, when you operate and open this abscess, you will find it attached to the parietal peritoneum; if so, the operation is simply opening an abscess. Make the opening large enough to introduce your finger, gently search for the appendix, and if you can find it or fæcal concretions, remove them. If the appendix is fastened by adhesions, let it alone. Drain the abscess cavity with a rubber tube and gauze. If you find the abscess not attached to the parietal peritoneum, I would treat the case, if practicable, as I describe in Case XI.

In *acute perforating appendicitis*, I would operate at once. In such cases you cannot operate too soon. You frequently have very violent infection and inflammation, producing gangrene and sloughing of the appendix. The peritoneum is speedily involved, and diffuse septic peritonitis quickly comes on. Very often, in these cases, as soon as the peritoneum is opened there escapes a milky fluid thinner than pus, and it is always most imperfectly, if at all, confined by fibrin. These are the frightful cases, and an early operation alone gives a chance for life. It is these cases of acute perforating appendicitis that have induced many surgeons in this country to urge immediate operation in *every case* of appendicitis. I cannot subscribe to this doctrine. I have seen too many of the other kind of cases get well without an operation. But when we have a case where the symptoms are ushered in with great rapidity, when the pain is atrocious and the temperature high, the pulse rapid, 110 to 120, when vomiting is persistent, and constipation insuperable; when the belly is tender, and the right iliac region hard; and above all, when the patient's face indicates mortal illness, when he looks indeed like a man shot with a bullet through the belly, you may know that perforation with acute septic peritonitis is imminent, or has already taken place. Operate at once, for delay is fatal. Remove the appendix, wash out the belly with warm normal salt solution—wash it out over and over again, and then drain with strips of iodoform gauze or tubes, or both. Papers of McBurney, Bull, and others, show the value of this. Good washing and free drainage give the only chance for life. These cases are what may be called *fulminating appendicitis*, or general septic peritoneal infection, and run their course quickly. The whole tale is told usually in forty-eight hours.

I have gone over, in a very brief and imperfect way, three forms of appendicitis, to distinguish them from the variety presented in my paper to-day. The cases reported are known as *relapsing*, or *recurrent*, or *chronic appendicitis*, the last name, to my mind, being the most appropriate.

An individual may have an attack of appendicitis, more or less severe, and the symptoms may gradually subside and disappear, and it is very possible he may never have a second attack; but if the first seizure is at all severe, it may happen that the appendix and parts around it are never entirely restored to their original condition; and at variable intervals of time, the attack will recur with greater or less violence. No one can foretell, from the history of the first attack, what the nature of the next attack will be, or when it will occur. I have seen three years intervene between the first and second seizure, and then a savage attack ensue. Dr. George W. Gay, of Boston, who has written a clever article on this subject, reports an interval in his own case of seventeen years between the first and second attack. But the pathological changes caused by the first attack may disappear and a second seizure never come on, and a patient is entitled to that chance, if he so decide. But if the attacks are repeated, and especially if the intervals between are becoming shorter, and the attacks more violent, then the appendix should be removed. The next attack may be fatal, or at least the man becomes a hopeless invalid.

Ever since Escherich discovered the microbe, which he called bacillus coli communis, it has been almost conclusively demonstrated that this bacillus is the genesis of a certain number of maladies, and chief among them is appendicitis. This micro-organism has its domicile in the digestive track of man and animals, extending from the mouth to the anus. They were for a time regarded as not only inoffensive, but positively useful in the animal economy; but it has been discovered that, under certain circumstances, these microbes may become very virulent and hurtful. Any morbid condition of the bowels makes them virulent; inflammation, obstruction, strangulation, diarrhœa, or constipation, may render this bacillus virulent. Constipation is a common cause; indeed, a very large proportion of the cases of all kinds of appendicitis that I have seen were subjects of habitual constipation. The bacillus

coli is generally found in cases of appendicitis alone, or sometimes associated with other pathogenic germs.

The pathological conditions, following one or more attacks of appendicitis, can be partially gathered from the report of my cases. The appendix may be fastened like a strap across the cæcum interfering with the peristalsis of the gut; it may be fixed by adhesions to other parts; it may be bent upon itself, and its lumen occluded by kinking; a portion of the canal may be obliterated and closed at its cæcal end, and the distal end distended to several times its natural size, and filled with mucus or pus, or both; a small abscess may be found around the appendix, walled off strongly by a barrier of well-organized fibrin; or else it is said a foreign body may occupy its canal. I have never seen the last; I have seen soft fæcal matter lying in the canal, and several times hard dry balls of fæcal matter. In one case in Staunton, Va., where I operated for acute appendicitis on a physician's son, the doctor opened the appendix before I completed the operation, and found what looked like two cherry stones. The two little round smooth balls rattled in a dish as cherry stones would be expected to do, and the mother stated, at the time, that her son had eaten pickled cherries a few days before. I afterwards found, when I mashed the supposed seeds, that they were dry, hard fæcal masses. In another patient, a young child I operated on for acute appendicitis for Dr. Moseley, of Richmond, a smallwhite kidney-shaped substance, supposed to be a bean, was found in the discharge; this also proved to be fæcal matter and fat. I know, of course, that foreign bodies are found in the appendix, but in the thirty-six cases of operation in my hands I have never seen one. Pathological change in the appendix must have taken place before a foreign body could be admitted into the canal, and when admitted it would likely be mischievous only as a conveyor of infection.

It is naturally asked, Is medical treatment in these cases of no avail? I confess, when I recall the pathological conditions found in my cases, that medical means, to my

mind, can be expected to help but little, if at all. You cannot, in the present state of the science of medicine, expect it to overcome the difficulties that I have just now stated. But it may be urged that the cases may be only of moderate intensity, and the pathological changes may be slight. Unfortunately, we cannot always tell by the symptoms and duration of the attack how much mischief is done to the parts. An apparently slight and insignificant attack may leave the appendix and parts around it hopelessly crippled and diseased, while an apparently savage attack results in trifling mischief. I have operated after two or three comparatively slight attacks, and found the parts so matted and diseased as to tax all of my skill, and only after hard work of an hour and a half completed the task; and I have operated when, from severe and lasting symptoms, I anticipated great trouble, and found but slight disease, and completed the operation in a few moments. However, I am not opposed to medical measures. I confess, as I say, when I recall the state of the parts as I have seen them, I cannot feel hopeful of any treatment short of the knife. Prolonged rest in bed; rest not for days but for weeks; a restricted and regulated diet, purgatives and counter-irritants by iodine and blisters, massage, and an intestinal antiseptic as salol, constitute the chief remedies, and by them individuals who have had one attack have escaped a subsequent one. It is only fair to say that persons who have had one attack, and who have not pursued the above remedies, but followed their usual course of life, have also escaped a second attack. I am frank to say, however, that I believe the former are more apt to escape than the latter.

The first case reported was not one of good surgery. The appendix should have been removed. That she got well, and has remained well for several years, is evidence rather of good luck than good surgery. These conditions, you know, are sometimes confounded. It teaches, however, the value of persulphate of iron in preventing reunion of separated parts—a fact that I have had repeatedly demonstrated to me before and since that time.

Cases V and VII show the hazard of leaving a raw surface, as the stump, after castration in women, unprotected. It would be better to paint this raw surface over with the iron spoken of, touch it with a hot iron, or a hood of peritoneum from some neighboring tissue may be used.

Cases II, VI and VIII show the influence tubular and ovarian diseases may have upon the appendix.

Case XVII. I think it is not too much to say of this, my only fatal case, that he would probably have recovered if the operation had been done in a well-appointed modern hospital.

Lastly, a few words about the *operation*. I make a clean cut straight down on the most prominent part of the swelling, if there is any, or over the supposed site of the appendix, if there is no swelling. I begin near the anterior superior spinous process, and cut inwards and slightly downwards towards the inner border of the rectus. In fact, the incision is almost transverse. The more nearly transverse it can be made, the better the union afterwards, and the less the danger of subsequent hernia. I am afraid of the plan of separating the fibres of the different planes of muscles with retractors and two assistants. The muscles must be injured, repair of bruised parts slower, hernia more common, and drainage, if needed, less perfect. The incision is not more than two inches long in the skin and shorter as the cavity is reached. The peritoneum is opened most cautiously, a piece of omentum, or, more important, a portion of the gut may be adherent, and in the line of the incision. After the belly is opened, Trendelenburg's position is of great assistance. If the appendix is difficult to find, look for the anterior bundle of longitudinal muscular fibres of the colon, follow this as a guide, and it will usually lead you to the little organ. When found and separated, if attached, a circular cut through the peritoneal coat is made, and the serous membrane stripped down for half an inch; a fine silk ligature is tied around the muscular and mucous coats of the little process, and the appendix cut off. The ends of the ligature are cut short. The detached serous

membrane is now brought back and stitched or tied over the end of the stump.

Any portion of the omentum that has been adherent, and in contact with the appendix, is ligated and cut off; no matter how large a portion it is, if it is injured or suspected of being infected, it is removed. I lost a case, some years ago, by stupidly returning a piece of omentum, that had been in contact with the appendix, and was infected.

The most difficult part of the operation is to deal with the adhesions. It is very important that all adhesions should be undone, if it is possible to do so. A small delicate periosteal elevator is a useful instrument for this purpose. If the adhesions are left untouched, the patient may get well of the operation, but remain an invalid for the rest of his life, liable at any moment to intestinal occlusion, and subject always to tenderness over the abdomen, and to constant gastro-intestinal uneasiness.

Iodoform is freely dusted over any injured places in the peritoneum, drainage of gauze introduced, if deemed necessary, and the wound closed with a continued fine silk suture for the peritoneum, and silkworm-gut sutures for the muscles, fascia, and skin.

CASE I.—*Enlarged Appendix Adherent to Cæcum—Appendix Separated and Not Removed—Recovery.*

Mrs. W. H. B., age 30, patient of Dr. A. G. Taylor, of Chula Depot, Va., was admitted to St Luke's Home October 11, 1893. She had had repeated attacks of appendicitis, accompanied by pain, nausea, and vomiting, the attacks often lasting five or six days; the duration of one attack was two weeks. Tenderness in the right groin, but no appreciable lump. The abdomen was opened, the appendix found very much enlarged, and firmly adherent to the cæcum; it lay fastened across the organ like a strap. The adhesions were old and well organized, and their separation was difficult, and had to be made with the point of the knife. After being detached from the cæcum, the appendix was found to be five and a half inches long, and as large as my thumb. Just at the junction of the appendix with the cæcum, there was a large hard mass an inch thick, the result of inflammatory deposit. After the appendix was

separated from the cæcum, the raw surfaces were rubbed over with Monsel's solution of the per-sulphate of iron, and the cavity of the abdomen closed. Her recovery was uninterrupted.

A letter received at this writing (two years since the operation) from Dr. Taylor, says: "As far as I can judge, her recovery from appendicitis is perfect. She has had a child since the operation, and her health is completely restored."

CASE II.—*Elongated Appendix Adherent to Ovary—Both Removed—Recovery.*

Mrs. L. B., age 42, patient of Dr. Stuart McGuire, of Richmond, Va., was admitted to the Virginia Hospital November 24, 1893. Has had five attacks of appendicitis, accompanied by pain, fever, great tenderness in the right groin, and a distinct lump. The last attack was violent, confining her to bed for three weeks. Operation was performed before the Class. After the abdomen was opened, the appendix was found firmly adherent to the right ovary, which was enlarged and inflamed. It was almost impossible to separate these two organs without rupture, and both were removed. The patient made an uninterrupted recovery.

In this case, the appendix was elongated, its cæcal end partially occluded, its free end dilated and distended with gas, and the mucous coat thickened and diseased.

CASE III.—*Elongated Appendix, etc., Removed—Recovery.*

Miss L. B., age 16, patient of Dr. J. H. Young, of Burkeville, Va., was admitted to St Luke's Home November 3, 1893. History of one severe and several slight attacks of appendicitis while at home under the charge of Dr. Young. While at school in this city, she had a very severe attack, which laid her up for several weeks, having fever, pain, tenderness in the right groin, but no distinct lump. The abdomen was opened, and the appendix removed. It was found in its normal position, slightly congested, and free from adhesions. It was six and a half inches long, measuring about half an inch in diameter. The free extremity was enlarged, the base contracted; it was dense and firm, almost cartilaginous in consistency. After it was removed, it was found that the lumen next to the cæcum was completely occluded for the distance of an inch by inflammatory deposit, and that the mucous membrane which lined the patent portion of the tube was filled with a sero-mucous fluid, probably resulting from catarrhal inflammation. The wound closed, and recovery uneventful.

CASE IV.—*Appendix as if of Erectile Tissue—Removed—Recovery.*

Miss A. J., age 20, patient of Dr. H. G. Melvin, of Houston, Va.; admitted to St. Luke's Home December 4, 1893. Had history of several severe attacks of appendicular colic during the past year. It was difficult to tell whether the pain in the right groin was due to trouble of the ovary or appendix. No fever, no swelling; the pain, however, was violent, necessitating the use of morphia, lasting sometimes for hours, and on one or two occasions for days. The abdomen was opened, and the appendix was found at once; it stood up as if made of erectile tissue, and if pressed down, would at once fly up in the erect position; its free end was dilated and filled with gas; for an inch from the cæcum, the little tube was apparently solid. The peritoneal covering was congested. No adhesions. The appendix was removed. The patient made an uninterrupted recovery. The operation was simple and quickly performed. To this date the patient remains well.

CASE V.—*Swollen, Elongated and Sharply Flexed Appendix Adherent to Stump of Ovary—Peeled Off and Removed—Recovery.*

Mrs. C. R. H., age 45, patient of Dr. Charles V. Carrington, of Richmond, Va; admitted to St. Luke's Home December 27, 1894. Two and a half years ago, an operation was performed on this lady by a surgeon in Baltimore for the removal of both ovaries and tubes. Six months ago, she had her first attack of appendicitis, and every two or three weeks since that time an attack occurred, each time after a shorter interval, and each time with more intense symptoms. She had fever, great pain, swelling of the whole flank, but no lump. I opened the abdomen, and found the appendix swollen and congested, and firmly adherent to the stump of the right ovary; it was peeled loose with some difficulty and removed. The appendix was greatly elongated, and sharply bent at its cæcal attachment. The lining membrane of the appendix showed ulcerative changes, and there was a large amount of muco-purulent secretion in it. She recovered without bad symptoms.

CASE VI.—*Appendix Adherent to Ovary Containing Dermoid Cyst—Both Removed—Recovery.*

Mrs. M. B. G., age 34, patient of Dr. James B. McCaw, of Richmond, Va.; admitted to St. Luke's Home December 29, 1894. History of griping pains in her right side; pain

continuous, and subject to occasional severe exacerbations, which kept her in bed for days. An examination showed considerable enlargement of the right side; vaginal and rectal examination showed large lump in the right iliac region. Although exact diagnosis was not made, it was determined to open the abdomen, find the trouble, and, if possible, remove it. When this was done, the right ovary was found to contain a dermoid cyst about as large as an orange, to which the appendix had grown. It showed some evidence of disease, and it was considered best to remove it, partly for this reason, and on account of the injury done it in freeing it from its attachment. The dermoid cyst was removed at the same time, and she made an uneventful recovery.

CASE VII.—*Sharply Flexed Appendix Containing Fæcal Masses, Adherent to Stump of Ovary—Separated and Removed—Recovery.*

Mrs. F. B. C., age 24, patient of Dr. Henckel, of Staunton, Va.; admitted to St. Luke's Home December 30, 1894. This patient was in my hospital two years ago, at which time I removed her tubes and ovaries, which were extensively diseased. Six months ago—eighteen months after the operation—she had her first attack of appendicitis; she has had in all about five severe attacks, each time confining her to bed, and requiring the use of morphia. The last attack was attended with great pain, swelling, and fever. The abdomen being opened, the appendix was found attached to the stump of the right ovary; it was sharply bent upon itself, and stretched. It was easily separated from its attachments, however, and brought out for inspection. It was found congested, red, and swollen, and after its removal, was seen to contain several hard fæcal masses. Her recovery was uninterrupted.

CASE VIII.—*Appendix Adherent to Ovarian Tumor—Both Removed—Recovery.*

Mrs. F. J. T., age 48, patient of Dr. Harrison, of Richmond, Va.; admitted to St. Luke's Home January 9, 1895. This lady had an ovarian tumor of several years' standing, but as for a long time it gave her no trouble, although slowly growing, she declined operative interference. But suddenly, and without any explanation, she began to suffer great pain in the right groin; the pain was continuous. Occasionally, however, she would have a sharp attack, which confined her to bed. On opening the abdomen, the first

thing I saw was the appendix running across the face of the tumor like a little snake. It was firmly adherent, and almost impossible to detach without bursting it or the tumor. I removed it, however, and at the same time the ovarian tumor was taken away. Her recovery was complete.

CASE IX.—*Appendix Adherent to Cæcum Transversely, Constricting Bowel—Peeled Off, Leaving Opening in Cæcum, Closed by Sutures—Removed—Recovery.*

Miss N. T. S., age 16, patient of Dr. Stuart McGuire, of Richmond, Va.; admitted to St. Luke's Home March 20, 1895. This young girl had had several attacks of acute appendicitis during the past year, but as three or four months passed and no return of the trouble appeared, her parents sent her to Washington City to school. While there, she had a pretty severe attack—pain in the right side, swelling, muscular rigidity, constipation, and fever. Her parents brought her back after the attack subsided, and I deemed it best, after examination, to remove the appendix. The abdomen was opened, the appendix found closely adherent to the cæcum, going transversely across this organ, and somewhat constricting the lumen of the bowel. It was peeled loose after a great deal of trouble and removed. A small opening was made in the cæcum in detaching this appendix, which was closed with fine silk sutures. Her recovery was uninterrupted.

CASE X.—*Elongated Appendix Doubled on Itself, Adherent to Cæcum—Omentum also Adherent—Separated—Omentum Sliced, Ligated, Removed—Releasing an Adherent Coil of Intestines—Appendix Full of Fæces—Removed—Recovery.*

Mrs. E. B. B., age 35, patient of Dr. R. E. Franklin, of Richmand, Va.; admitted to St. Luke's Home March 29, 1895. This lady had been suffering with great trouble for the last six months. The pain was usually confined to the right iliac region, but occasionally extended all over the abdomen. The attack would begin with pain about the umbilicus and extend all over the abdomen, and as it subsided, left great tenderness and soreness in the right iliac region. She was very fat, and an examination failed to determine the exact nature of the trouble. Her last attack kept her in bed for weeks, during which time she had fever, great pain, without appetite, and constipation difficult to overcome, and her life was thought to be in great danger by her attendant physician and by myself, who saw her in

consultation. The abdomen was opened, and the appendix was found doubled on itself and fastened to the cæcum; it was dense and firm in consistency, and of unusual length. The omentum was closely adherent to the cæcum and appendix. After separating the omental adhesions, a large slice of the omentum was ligated and removed. An adherent coil of the intestines was also released. The appendix was removed, and found full of fæcal matter. The patient recovered without a bad symptom.

CASE XI.—*Omentum Adherent to Parietal Peritoneum—Abscess Appendix Detached—Removed, with Fæcal Lumps—Recovery.*

Mr. G. H. G., age 17, patient of Dr. W. L. Drewry, of Wakefield, Va., entered St. Luke's Home, December —, 1893. Had history of several attacks of chronic relapsing appendicitis, the last one only a short time ago. This was very severe, and he was obliged to take a good deal of opium. Along with the pain was fever. His belly, even now, is swollen, and there is tenderness all over the abdomen, but especially in the right iliac region, where there is a distinct lump. I operated on him, and came down, after the abdomen was opened, upon the omentum, slightly adherent to the parietal peritoneum. By palpation I could feel through the thin piece of omentum an abscess cavity. Before opening this, I stitched the surface of the omentum to the parietal peritoneum, so as to keep the peritoneal cavity from the contents of the abscess. I did this stitching very carefully with fine silk, taking some time to accomplish it. After carefully packing gauze around the edges of the opening, I carried the knife through the omentum into the abscess cavity, following it with my finger. I found the detached appendix, which was easily removed, along with one or two hard, small fæcal lumps. The cavity was then washed out carefully, a drainage tube of rubber introduced, and the wound closed. The man made an uneventful recovery.

A letter just received this month from his father, W. C. G., says that he is now hale and hearty, weighing 160 pounds, and has never had a bad symptom since the operation.

CASE XII.—*Omentum Covering and Adherent to Cæcum—Separated—Omentum Ligated and Removed—Appendix filled with Pus, Adherent to Cæcum—Removed—Recovery.*

Mr. W. C. B., age 27, patient of Dr. Keister, of South Boston, Va., admitted to St. Luke's Home, April 6th, 1895. This gentleman has had fourteen attacks of appendicitis,

each time getting more and more severe. I examined him some months ago, andadvised an operation, but he declined. Three weeks ago he had a very severe attack, attended by fever, great pain, the pain lasting for two days; constipation, with swelling of the abdomen, and tenderness over the right iliac region; no lump could be felt. Opened the abdomen, and found the omentum covering the cæcum, and adherent to that organ, and difficult to detach. After separation, a portion of the omentum was ligated and cut away. Several points of adherent bowel were separated. The appendix was fastened to the cæcum for the greater portion of its length, and was detached with difficulty. It was found after removal to be filled with foul-smelling pus. Parts about cæcum looked dirty, brown, and friable. Gauze drainage was used and the cavity closed. The drainage was permitted to stay for three days and then removed. He made a good and speedy recovery, without any bad symptoms. Operation in this case lasted one hour and fifteen minutes.

CASE XIII.—*Omentum Adherent to Cæcum—Hole Left in Bowel on Separation—Sewed Up—Appendix containing Bodies Like Boiled Rice, but no Pus—Removed—Recovery.*

Mr. C. R., age 30, patient of Dr. Lewis Wheat, of Richmond, Va., entered St. Luke's Home, April 25, 1895. He has had three attacks of appendicitis, the last one very severe, keeping him in bed for three weeks, attended by rise of temperature, great pain and swelling, with a distinct lump in the region of the cæcum. I saw him at this time in consultation with Dr. Wheat, and advised him not to have the operation done until the fever and acute symptoms had disappeared. I operated on him April 25th, six weeks after the subsidence of the last acute attack. Found very extensive adhesions and the omentum fastened to the cæcum. The adhesions were hard to break up. I found three points of adherent coils of intestines, which were separated with great care, and took a good deal of time. The appendix was fastened tightly to the cæcum, and in detaching it I made a hole in the bowel about half an inch long and a quarter of an inch wide. This was immediately sewed up with fine silk, and the appendix removed. It was found, after removal, to be closed at its cæcal end. It contained a large quantity of bodies like boiled rice, but no pus. Inserted gauze drainage, and closed the wound. The next morning he was doing so well that the House Surgeon removed the gauze drainage, although the discharge

had been very free. As soon as the gauze was removed, he began to get worse; his temperature went up to 101. That night, fortunately, I was able to replace the gauze and re-establish the drainage. The improvement was immediate, and his recovery after that was uneventful.

CASE XIV.—*Appendix Underneath Cæcum, which was Adherent to Iliac Fossa—Appendix, filled with Pus, Adherent to Peritoneum—Recovery.*

Mr. H. B. L., age 21, patient of Dr. David Lucas, of Quinton, Va., entered St. Luke's Home, March 22, 1895. This man has had ten attacks of appendicitis, each one becoming more and more violent; his physician was compelled to give him large doses of opium during every attack, to relieve the pain. He had swelling in the right groin, great tenderness in that region, and habitual constipation, requiring large doses of medicine to move his bowels. I opened the abdomen March 24th; found the appendix, with great difficulty, underneath the cæcum, which organ was adherent to the iliac-fossa, and had to be detached. The appendix, when found, was adherent for three-quarters of an inch of its free end to the peritoneum covering the iliac vessels It was closed for about an inch of its cæcal portion. The free end of it was bulbous, swollen, dilated, and filled with dirty, foul-smelling pus. Around the appendix in the iliac-fossa was deposited quite a quantity of stuff, which looked like boiled custard, probably about an ounce of it in all in that region. This was scraped out, curetted, and the cavity dusted thickly with iodoform. Gauze drainage was freely used in this case, being allowed to remain for three and a half days. It was then removed, and his recovery was uneventful.

CASE XV.—*Omentum Adherent to Abdominal Wall and Cæcum Detached, Ligated, Removed—Appendix Imbedded in Inflammatory Deposit, Perforated at End and Rotten—Removed—Recovery.*

Mr. A. A. M., age 28, telegraph operator, patient of Dr. C. V. Robinson, of Petersburg, Va., entered St. Luke's Home, February 4th, 1895. He has had repeated attacks of appendicitis in the last two years, the last one being very severe, attended by vomiting, pain, fever, etc. The last attack kept the man in bed for three weeks. He never was entirely free from some abdominal trouble after the first attack. The right iliac region has been constantly sore upon pressure, or on taking too much exercise, and there

was a distinct lump. The operation was performed February 5th. The usual incision was made and the abdomen opened. The omentum was fastened to the cæcum and to the anterior abdominal wall. It was detached without difficulty, however, and the detached portion ligated and removed. The appendix was found upon the inner side of the cæcum, imbedded in a mass of inflammatory deposit. The adhesions were difficult to break, and at one time I was almost on the point of abandoning the attempt at finding the appendix. When, however, the adhesions were completely removed, the appendix was found enlarged, swollen, perforated at its extremity, and so rotten that it was with great difficulty that it could be handled and tied off. I was obliged to handle it with the greatest gentleness to keep it from bursting. On the inner side of the cæcum, at the site occupied by the appendix, was a cavity filled with some boiled custard-like stuff. This was scooped out, curetted, and covered with iodoform. Gauze drainage was used very freely, and the wound closed. It was impossible, in this case, to cover over the stump of the appendix with peritoneum, as I usually do. However, before I dropped the stump, I applied to the dirty, foul mucous membrane, in the center, the sharp point of a thermo-cautery, searing completely its free surface. The gauze drainage was permitted to remain for three days, when it was removed, and the man recovered, without any untoward symptoms.

June 5th, four months after the operation, an abscess formed in the abdominal wall, not in the cavity of the belly. This abscess was opened and drained by Drs. Budd and Robinson. The man came to see me August 1st, quite well again.

CASE XVI.—*Appendix Blended with Bowel—Stripped from Cæcum—Removed—Recovery.*

Mr. G. M., age 29, book-keeper, patient of Dr. Lewis Harvie, of Danville, Va., entered St. Luke's Home, June 17, 1895. He has had repeated attacks of appendicitis, which began about eighteen months ago, and recurred every two or three months. One attack kept him in bed for six weeks. He had decided swelling in the right iliac region. The man is frail and exceedingly delicate at best. As a boy he was threatened with phthisis. He has now occasional attacks of diarrhœa, difficult to control. He is tall, thin, and pale. I operated on him June 18th, making the incision in the usual way. Found that the swelling was due to distension

of a portion of the cæcum. The appendix was small, fastened like a strap to the cæcum, and intimately blended with the bowel. I removed it in the usual way, stripping it loose from the cæcum, although it was difficult to do, and I was compelled sometimes to use the point of the knife. Gauze drainage. The man recovered without a bad symptom.

CASE XVII.—*Omentum Adherent to Bowel—Appendix Hidden in Adhesions, was Distended with Muco-Pus, and Studded with Points like Mortification—Removed—Septic Peritonitis—Death.*

Mr. J. H., age 28, patient of Drs. Austin and McChesney, of Lewisburg, W. Va. Had repeated attacks of appendicitis, requiring the free use of morphia to stop the pain. His general health has been impaired by the attacks. The most severe one was in the spring of last year, which confined him to bed for some time. He was never free from pain, and was tender on pressure over the region of the appendix. He came to see Dr. Stuart McGuire several weeks ago, at the White Sulphur Springs, W. Va., who advised him to come to St. Luke's Home to have the operation done. He preferred to have it done at the White Sulphur, because the weather was so warm, and he could have Dr. Stuart McGuire to attend to the after treatment. I operated on him June 25th, 1895. Found the adhesions very extensive, and the omentum fastened to the bowel in many places. The appendix was distended and enlarged and filled with muco-pus, and its walls studded with numerous small, dark points; these points looked as if mortification had taken place. The operation was an exceedingly difficult one; the appendix was hidden under a mass of adhesions, which were old and well organized, and it was not until I had separated a great many of these adhesions, that I was able to find the appendix at all. Gauze drainage was used, and the patient did well for twenty-four hours. His temperature, the morning after the operation, was 99°. Slight vomiting of bile that morning. About 2 o'clock, the second day, his temperature rose to 101°, at four $102\frac{2}{5}$°, at five 103°. Dr. Stuart McGuire had given him five grains of calomel that morning, and afterwards sulphate of magnesia, both of which, however, were rejected. Enemata were used, the long rectal tube was employed, but all failed to move his bowels. The next day, Dr. Stuart McGuire cut the stitches and opened the wound; found a pint or more of bloody serum in the cavity, the small intestines dis-

tended with gas, and a small piece of the omentum which I had detached was fastened to the bowel in the neighborhood. These were all broken loose, the abdomen flushed out, and a great many drains of sterilized gauze were inserted. The patient rallied well, and an hour later was apparently better than before this secondary operation. About dark, however, he began to fail, and died at 10:20 that night from septic peritonitis.

Art. II.—A Long Survival of Injury of the Spinal Cord in the Cervical Region.*

By JAMES L. KENT, M. D., of Bertha, Va.

In presenting this paper, I do not aspire to teach you anything new, but to interest you in a case which is almost unique.

On July the 22d, 1893, a healthy miner, aged twenty-three, got into a drunken fight with several others, who struck him over the head with steel knucks, caught him by his feet, and rammed his head against the ground until he was supposed to be dead. He was carried home unconscious, and his relatives, presuming that he was only intoxicated, paid no special attention to him until he failed to get up next morning.

Then I was summoned, and found him in a very drowsy condition, from which he could with difficulty be sufficiently aroused to answer questions. There were several cuts over the left eye, and a small scalp wound near the posterior superior angle of the left parietal bone. His face and hair were covered with dust. His face was markedly flushed; there was a slight elevation of temperature, very difficult diaphragmatic respiration, retention of urine, and absolute sensory and motor paralysis of all the body below the second ribs. He could flex, but could not extend the forearms; could flex the fingers slightly, but could not extend them. I could not discover the slightest deformity of the vertebral column, but the patient suffered intensely if his head was moved laterally or lowered to the same plane as his shoulders.

At 9 P. M. the same day, his intellect had become much clearer, and he said that he did not remember anything that had happened since the previous evening, before he

*Read before the Medical Society of Virginia in session in Wytheville, September 3–5, 1895.

was injured. At this time his physical condition was much worse; pulse 138, fulland bounding; respirations 35 and very labored; temperature 103° F.; suffering very great pain in the back of his neck and over the scapulæ, with continued retention of urine and constipation.

From this time on, flexion of the upper extremities became weaker gradually, sensation in the fingers was soon lost, emaciation was rapid, and, in spite of early antiseptic precautions, cystitis developed at the end of the first week. Then came overflow of urine and fœcal incontinence. There was occasional vomiting, but never any dysphagia. On the eighth or ninth day, bed sores appeared over the sacrum, and necrosis soon became so deep as to expose the sacral nerves. There was at no time that sensation of a band or constriction about the body, a symptom so often complained of in cases of spinal injury. There was nearly always a sensation of heat, but there was never any special elevation of temperature after the third day. The difficulty of breathing was greatly increased when the patient was placed on either side or when his bowels became distended with gas. With the exception of a few days, when the diaphragm and serratus magnus muscle seemed ready to rebel against doing the work of all the muscles of respiration, he breathed fairly comfortably, but dyspnœa came on oftener toward the end, showing that degeneration was approaching the origin of the phrenic nerves. (I could relieve the dyspnœa very much by $\frac{1}{60}$ grain doses of strychnia sulphate, given every two hours until relief was obtained, or $\frac{1}{15}$ grain was given.)

His consciousness remained clear until 8 P. M. September 7, when he became unconscious and died one-half hour later, forty-seven days after the injury.

Autopsy.—On September 9, assisted by Dr. E. M. Wilkinson, of Patterson, Va., I opened the spinal canal and found the cord normal, except for a space of about one inch, beginning opposite the articulation of the body of the sixth on that of the seventh cervical vertebra, and extending upward to near the origin of the sixth cervical nerves. For this distance the membranes of the cord were not broken, and showed only slight signs of an old inflammation, but the substance of the cord was of the consistence of thick cream and exuded from the roots of the nerves as they were severed, leaving nothing but the connective tissue and membranes, which formed a thin, flabby connection for the two ends of the cord. The vertebral laminæ and spinous processes were intact, and the only sign of violence

to the spinal column was the ruptured posterior common ligament between the sixth and seventh cervical vertebræ.

I could not remove the bodies for examination, as the autopsy was held under protest, and I had promised not to mutilate the corpse more than was absolutely necessary to ascertain the cause of death, but these were in normal relation, so that there must have been a displacement to tear the ligament with spontaneous reposition.

From the evidences at the time of injury, and post mortem, we concluded that the weight of the body was thrown on the forehead in such a way as to lift the sixth vertebra up and slide it back over the seventh, as there were dirty cuts on the forehead and nose, and the posterior common ligament was torn through, while the ligamentum nuchæ was intact.

This violent displacement would bruise and constrict the cord sufficiently to cause its death at this point.

I regret that I cannot show microscopic sections of this cord, but it did not harden satisfactorily after ten months' immersion in Muller's Fluid. The diagram shows the backward displacement of the sixth vertebra.

Ashhurst says that two-thirds of the cases of injury of the cord in this region die in the first week; this one lived nearly seven weeks.

A peculiar coincidence connected with this case was that his nurse had sustained a fracture of the spinal column in the lumbar region twelve years before, and recovered so that his only trouble was incontinence of urine and a slight muscular weakness of his back.

Art. III.—Hypertrophy of the Lingual Tonsil, with Report of Cases.

By J. EDWARD TOMPKINS, B. A., M. D., Fredericksburg, Va.

The lingual tonsil is a mass of hypertrophic lymphatic tissue found in the glosso-epiglottic fossa and completes the ring formed above by the faucial and on either side by the pharyngeal tonsils. Its structure is analogous to that of lymphatic enlargements found in the vault of the pharynx and between the pillars of the fauces; but its follicles, instead of being massed together, are displayed in a broad layer.

Lengthy details in regard to pathology are usually boring to the busy practitioner, and have no place in the object of this article. My principal aim shall be to call attention to a condition frequently met with, but often unrecognized, and to point out its rational treatment.

The hypertrophies are more frequently met with in persons about middle life, differing in this respect from adenoids and enlarged pharyngeal tonsils. While it is a disease of middle life, children are not exempt. A case occurred in my practice some months ago in a boy of nine. Children, as a rule, bear abnormalities of the throat remarkably well, and probably that accounts for their so seldom seeking relief from their condition. Females are oftener seen with this affection than males. The acute infectious diseases may furnish the starting point of this hypertrophy.

In most cases, however, it is a chronic process from the beginning, not being characterized by acute exacerbations, as in hypertrophy of the faucial tonsils. Its growth is so insidious that usually its presence is unnoticed for years.

Symptoms.—The most important symptom is a *persistent dry cough*, often leading the patient to suspect tuberculosis. Such cases have frequently come under my observation, in which removal of the lingual tonsil has cleared up the cough and re-assured the patient. Fulness in the throat, sometimes mistaken for globus hystericus, is frequently complained of. Another annoying symptom, especially to those who have to use their voices a great deal, is fatigue in singing or speaking, especially when a high note has to be maintained. This is explained by the fact that the lingual tonsil hampers the forward movement of the epiglottis, which is necessary in the production of a high note. Eminent actors, speakers and singers have been compelled to abandon their avocations on account of this simple enlargement. Some individuals are more sensitive to any abnormality than others. A delicate woman, for instance, with a highly nervous temperament, would be annoyed considerably by a lingual tonsil, to which one of a phlegmatic temperament would pay no attention. Tickling in the throat, as if from the presence of a foreign body, is a symptom frequently complained of. Suffocative attacks are often complained of; and in one of my cases severe dyspnœa was a troublesome symptom.

The *diagnosis* can be made with absolute certainty by means of the laryngoscopic mirror, the use of which, by the exercise of a little patience on the part of an inexperienced hand, soon becomes an easy matter.

With the laryngoscope in position, the enlarged follicles are seen in the glosso-epiglottic fossa, being more developed on either side of the rima glottidis, but usually extending all the way across the tongue.

Enlarged Lingual Tonsil as seen in the Laryngoscopic Mirror.

At times the hypertrophy is so well developed that it reaches up as high as the upper margin of the epiglottis. To form an idea of the exact relation between the abnormality and the epiglottis, it is well to make an examination not only with the tongue protruded, but also in its natural position.

Treatment.—In small hypertrophies, temporary relief is occasionally afforded by astringent gargles, e. g.:

℞.—Acidi Tannici.
Acidi Borici.....āā ʒss.

M. S.—Teaspoonful to half tea cup of hot water used as a gargle every two hours.

Applications of nitrate of silver, chromic acid, and the like, will materially reduce the size of the enlargement. Temporizing measures, however, should not be tolerated here any more than with lymphatic enlargements in other portions of the throat. Total removal of the lingual tonsil is the only rational treatment in the majority of cases. This may be effected by means of the galvano-cautery. It is a difficult instrument for an inexperienced operator to use, however, on account of the danger of burning healthy parts, especially the epiglottis, which might bring on alarming if not fatal œdema. Another disadvantage is that after even a perfect operation with this instrument the throat is

left very sore. Bosworth strongly recommends the snare which goes by his name, using the curved canula. If the hypertrophy is prominent, this is a nice instrument, but it is ineffectual for small or sessile enlargements. The ideal instrument for this work is Myler's guillotine, devised by Robt. C. Myler, M. D., of New York, and manufactured by

the W. F. Ford Surgical Instrument Co. of the same city. It is fashioned somewhat after the order of a tonsilotome, that is, consists of a canula having a fork on the end, in conjunction with which works a sliding blade attached to a finger-piece in the handle. Its curve is adapted to the convexity of the tongue.

Its advantage over the galvano-cautery and the snare is that it removes growths in much less time. It is rarely necessary for the instrument to remain in the throat longer than five seconds at a time; besides, it can remove small and sessile growths which we could not accomplish by means of the snare.

Removal.—The patient, with a good artificial light on a line with his right ear, sits in front of the physician, who folds a napkin about his protruded tongue, which he is directed to hold with his right hand. Now, adjusting the head mirror over the left eye so that the light is thrown directly into the patient's mouth, the laryngoscope, previously warmed, is passed in with the left hand till the hypertrophy is exposed to view. Then, with a probe wrapped with cotton and held in the right hand, an application of 5 per cent. solution of muriate of cocaine is made. It is well also to anæsthetize the surrounding parts as well, especially the uvula, and then gagging, an annoying drawback, will usually be prevented. Usually, in about five minutes the parts are sufficiently deadened to proceed. The laryngoscopic

mirror being adjusted with the left hand, the tongue being held by the patient, the blade of the guillotine is placed over a portion of the lingual tonsil, which is cut off by manipulating its connection in the handle. The patient is directed now to gargle with very hot water to check the oozing, after which another piece is removed. This is continued till the removal of the whole mass is accomplished, unless it be too large or the hæmorrhage sufficient to hide the parts. In this event, the remainder of the operation is postponed for about three days. Usually, with large hypertrophies, I find it more satisfactory to have two or three sittings. The hæmorrhage from these cases is usually very trifling, never alarming. I have rarely seen more than half an ounce of blood lost, usually it is not more than half that amount. After the extirpation of this abnormality, the cough and other symptoms sometimes remain. The cause for this will be found in a varicose condition of the veins on the posterior portion of the tongue. The largest of these should be destroyed by means of the galvano-cautery.

Case I.—Mr. R. B. P., aged 38 years, applied for treatment Dec. 11th, 1894. He complained of constant dry cough of twelve years' standing—none at night. He had taken various cough mixtures and inhalations, both regular and irregular, with only temporary benefit. Examination revealed rather small lingual tonsil and several tortuous varicose veins at base of tongue. Complete removal of the hypertrophy, together with destruction of varicose veins by means of electro-cautery, effected complete cure of the cough.

Case II.—Miss F. T. T. applied for treatment Dec. 26th, 1894. Complained of dry hacking cough, most noticeable in the morning. This had lasted four years, for which any quantity of patent medicine had been taken without relief. The dread of consumption had given her much uneasiness. Small hypertrophy was found and removed by means of the guillotine. Complete cure followed.

Case III.—Jan. 2nd, 1895, Mr. R. B. M. complained of great fatigue when speaking, tickling in the throat, dry cough, and attacks of suffocation when in the recumbent posture. Examination revealed very large lingual tonsil, completely filling glosso-epiglottic fossa and rising up nearly

on a level with the upper margin of the epiglottis. Operation was performed, and the greater portion of the mass removed, at which he experienced much relief. One week later operation was completed by removal of several smaller follicles. This gave complete relief to the symptoms. He now has no trouble with his throat, sleeps well, and can speak loud and long.

Case IV.—Jan. 5, 1895, Mrs. M. E. T., aged 44 years, complained of dry cough, which does not yield to medicines. Some years ago a physician had pronounced her lungs weak and now she believed she had consumption. The presence of lingual hypertrophy was diagnosed and treated by operation with guillotine, which gave complete relief to cough and re-assured the patient.

Case V.—Mrs. D. H., 30 years of age, applied for treatment Jan. 30th, 1895. Complained of annoying fulness in the throat, causing her to hawk frequently. A large hypertrophy, situated rather more on left side of rima glottidis, was detected. She had no cough, although almost the whole glosso-epiglottic space was filled. Removal effected relief of symptoms of fulness and hawking.

Case VI.—Feb. 10, 1895, Mr. C. E. Q., aged 28 years, formerly devoted much time to singing, but complained now of lack of confidence in his voice, and inability to reach high notes; also complained of tickling in the throat and dry hacking cough. Examination revealed large hypertrophy, interfering materially with the free movement of the epiglottis. Removal of lingual tonsil gave almost immediate relief to the disagreeable sensation in the throat. He writes me one month later that his voice has been much improved, and that he has taken a prominent part in several concerts.

Case VII.—Mrs. R. C. R. applied Feb. 20th, 1895, for relief from constant hacking cough. This patient was already under my treatment for hysteria, which I considered the principal cause of the cough, but a rather large lingual tonsil being detected, I thought it well to remove it. The operation gave considerable relief for about six weeks, at the end of which time the cough returned, probably due to the nervous element.

Case VIII.—March 2nd, 1895, J. R. Mall, 9 years old, has suffocative attacks at night. Examination revealed hypertrophic rhinitis, adenoids of vault of pharynx and hypertrophied lingual tonsil. The hypertrophied turbinates were reduced and adenoids removed, but not until several

weeks later, when I removed the lingual tonsil, did attacks of suffocation cease.

CASE IX.—May 4th, 1895, Miss L. D., 22 years old, complained of frequent, almost constant dry cough, with frequent and alarming attacks of dyspnœa. More than once, previous to this time, had I been called from a warm bed to attend her in these attacks. She had a large lingual tonsil, which was removed at two sittings. Although the cough did not disappear entirely, probably due to the nervous element, still there was a marked improvement noticeable by all her friends; and six months have passed since the operation, during which time she has had only one slight attack of dyspnœa, whereas before the operation it occurred about once in three weeks.

CASE X.—May 20th, 1895, Mr. R. T., aged 40 years, complained of tickling sensation, dry cough, and constant tendency to swallow. Enlarged lingual tonsil was discovered and operated on, causing complete cessation of symptoms named above.

CASE XI.—May 16th, 1895, Mr. M. C. S., aged 52 years, applied for treatment on account of choking and fulness in throat, which had been coming on for several years; rather large hypertrophy was found, the removal of which caused his throat to clear up and the choking to cease.

CASE XII.—June 10, Mr. J. C. K. complained of fulness in throat and frequent dry cough. Examination revealed large lingual tonsil situated mostly on left side of rima glottidis. In this case hæmorrhage was rather free after removal of one or two follicles, not alarming by any means, but sufficiently full to interfere somewhat with the operation, so that a good many sittings had to be arranged. Total extirpation was accomplished, however, and total relief of symptoms followed.

CASE XIII.—June 20, Miss L. C., 24 years old, complained of a feeling as if a foreign body were in the throat; also of frequent desire to hawk. Hypertrophied lingual tonsil was recognized, and removed with entire relief to patient.

CASE XIV.—July 21, Mrs. F. T. complained as the above case with the addition of cough. Removal of enlarged tissue produced same result.

CASE XV.—July 31st, 1895, M. W., colored woman, 56 years old, complained that there was something in her throat; had frequent and violent fits of coughing, with no expectoration. This had lasted six years, during which time she had been the rounds of the doctors, some of whom diag-

nosed tuberculin, others bronchitis, and others still "stomach cough." The great quantity of medicine consumed by her had produced no relief. When informed that there was some enlarged tissue in her throat, which would have to be removed, she was very much alarmed, but finally consented to an operation. The hypertrophy was very large, almost completely filling the glosso-epiglottic fossa. It was removed at two sittings, and the patient expressed much satisfaction at the relief afforded.

A further enumeration of cases would be tiresome. The above fifteen unselected cases, reported just as they came to me, show what good and certain results may be achieved by removal of the hypertrophied lingual tonsil. The result of total removal is just as certain as any other we get in surgery or medicine. It relieves the patient of a very annoying symptom, and causes so little pain and so little risk that no case should be left untreated.

ART. IV.—A Review of Dr. Max Bartel's Work. "Die Medicin der Naturvœlker, ethnologische Beitræge zur Urgeschichte der Medicin." Leipzig. 1893. Pp. 334. With a Condensation of the Subject Matter on Primitive Minor and Major Surgery

By GEORGE M. KOBER, M. D. of Washington, D. C.

I have just read Dr. Max Bartel's work on the "Medicine of Primitive Peoples," and as it contains a number of interesting facts, I have been tempted to translate for your benefit some of the more striking examples of minor and major surgery related by this learned author.

While it is doubtless true that many of their methods in minor surgery are based upon the assumption that diseases are the result of some evil spirits implanted in the body, who manifest their presence by pain or other subjective symptoms, and that, for the purpose of curing the patient, it is necessary to open the body and let the devil out, this cannot possibly be the basis of procedure in all instances, and is certainly not the case with many of their major op-

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 11th, 1895.

erations, which appear to be well planned and executed. Daily observation must have convinced them, at an early stage of their history, that injuries are the result of natural causes in their conflict with wild animals, or other tribes, or accidents, while engaged in the chase, sports, or daily avocations; and the very fact that the causes were apparent, and that they were not dealing with some supernatural internal foe, may have inspired them with courage in the management of wounds, and with extended experience, their skill and methods naturally improved, until we see them perform operations which, up to within a few years, were rarely attempted by the most civilized operators.

A method of *dry cupping* by means of sucking the parts with the mouth of the medicine-man appears to be in vogue among the natives of Australia and North America; sometimes this suction is continued until blood oozes from the part; this has been observed among the Onkanagans of British Columbia, the Klamaths, Koroks, and the natives of Australia, not only in the treatment of a number of diseases, but also in inflammatory conditions, bites of serpents and scorpions, and in the management of arrow-wounds and bleeding surfaces.

The Indians of lower California and Northern Mexico, the Flatheads and Mincopies, frequently combine with the above method scarification by means of sharp fragments of stone or flint, and the Dakotas, Winnebagos, and the Karaya Indians of Brazil, and some of the tribes in Alaska, use special implements made of flint for this purpose. The Australian negroes and Mincopies use sharp fragments of glass; the natives of Southern Mexico and the Mosquitos employ fish bones, and some tribes in Mexico resort to thorns. The Ashantis scarify the parts with a thorny leaf, and the natives of Watubela Island pick up a fold of the skin by means of a bamboo forceps, and then scarify the part. Scarification, either singly or combined with subsequent suction by the mouth, appears to be a very common method for the local abstraction of blood, corresponding to our dry and wet cupping. The Navajo and Chippewa In-

dians have become more refined, and, instead of the mouth, apply a hollow reed; and those of Alaska place the hollow tibia of an eagle over the diseased part and then apply suction. A still more refined method is in vogue among the natives of North Africa, the Kaffirs, and Basuthos of South Africa, the Islands of Suang, Sermata, Leti, Moa, and Lakor in the Malayan Archipelago, and the Winnebagos, Creek and Dakota Indians of our own country. These peoples employ the horns of buffalos or cows; the points are perforated, the lower and large end is applied over the diseased parts, the air is exhausted by suction, and the opening is quickly closed with a piece of soft wax. These methods are quite commonly resorted to, not only for the extraction of the evil spirit, but also for the relief of inflammatory pain and neuralgia.

Venesection appears to be employed by a number of Indian tribes, many of whom have special instruments, resembling the point of a knife, tied to a stick, and generally made from a piece of flint. The Kwixpagmut Indians, at the mouth of the Yukon river in Alaska, use a small iron knife, and the natives of Australia resort to fragments of quarz or sea-shell. A very novel, if not amusing, method of venesection is practiced by the Indians of the Isthmus, who shoot their arrows at the patient with sufficient precaution to prevent deep penetration until a vein is struck. Such anatomical ignorance is nowhere else found, for the Karaya Indians of Brazil open the frontal vein for the relief of headaches, the Honduras open a vein in the thigh or leg, while the Indians of Central California take blood from the right arm if the disease is located in the trunk, and from the left arm if located in the extremities; the old Peruvians opened a vein at the root of the nose.

Circumcision, and other ritual operations, are frequently practiced by the primitive races. The natives of Northern and Central Africa and the Mohammedans of Asia employ a razor, the ancient Hebrews used a flint knife, and the inhabitants of the Malayan Archipelago resort to a sharp piece of bamboo; some employ the circular method, while others,

like the Serang Islanders, simply split the prepuce; for this purpose the operator, usually an older man, stretches the prepuce over a piece of wood, places the knife longitudinally over it, and drives it home by means of a solid block of wood; hæmorrhage is controlled by tamponade and the application of styptic powders.

The girls of the Malayan Islands are subjected to a *slight excision of the præputium clitoridis*, the operation being performed by women. In East Africa, a portion of the mons veneris and the labia majora are excised usually with a dirty razor. By means of suitable position and fixing the thighs, or the introduction of a few stitches, union of the vulva is effected; the insertion of a small tube prevents complete closure and admits of the escape of urine and menstrual fluid. This operation has been styled infibulation. Before marriage, the old union is partly divided, and just before parturition the opening is still further enlarged, while, after recovery from confinement, the operation of closing the vulva is frequently repeated.

Cosmetic operations, such as tabooing, the formation of geometrical scars, perforation of the lips, nose and ears for the suspension of ornaments, are of course very common. Among the natives of the Malayan Archipelago, a beastly habit of perforating the glans penis, for the purpose of inserting foreign bodies for erotic purposes, is in vogue, while others make an incision on the dorsum of the penis and insert a small gravel, or some other foreign body, and allow it to become encysted. V. Miklucho-Maclay reports that the natives of the Northwest Coast of Australia split the lower half of the glans penis from the meatus downwards for purely erotic purposes.

Removal of Foreign Bodies.—For this purpose quite a number of expedients are resorted to. The Karaya Indians of Brazil employ sharp fish-teeth for the extraction of thorns, splinters, insects, and other foreign bodies. The Haussa of Northwestern Africa employ primitive iron forceps. The treatment of abscesses consists primarily in the application of poultices; this has been observed among the

natives of Australia, Easter Island, aud Engano; among the Ashantis and North American Indians, a favorite application consists of hot mashes of leguminous leaves and ashes. The medicine-man of lower California does not hesitate to open an abscess by means of suction with his mouth, whilst the Frazer River Indians, the Bilgulas, and the negros of Victoria, scarify or incise the part with iron or bone knives; the South-sea Islanders of Tahiti, Samoa and Tongo open obstinate abscesses and boils with their scarifying implements made of fragments of shell, flint, and glass, large thorns, or the tooth from a shark. Hamilton witnessed among the Nicobares the application of the lower jaw of a fish supplied with very sharp teeth, which was driven into the tissues by a blow with a block of wood; profuse hæmorrhage ensued, and the abscess terminated in speedy resolution. The Dayakes of Borneo open their abscesses and boils with a wooden knife; the Kirgise according to Pallas, treat carbuncles, after making numerous punctures, by the application of tobacco and ammonia, and Corre attests that he saw the Fullahs of Rio Nuñez treat an ulcer by compression with a sheet of native copper.

Dental operations are fully attended to; they often use files and chisels, but do not hesitate to resort to the hammer and brute force for the removal of teeth. The people of Sokotó, however, have an instrument closely resembling the modern gum-lancet, and very fair shaped forceps.

Wound Treatment.—Most of the primitive people permit their *trivial wounds* to heal under the scab; some, however like the Karoks, Ashantis, Dakotas, the natives of South Australia or New Guinea, and of lower California, apply poultices prepared from pounded leaves and juicy barks. The Karayas of Brazil dust their wounds with powdered charcoal, and the inhabitants of Engano Island apply hot ashes or leaves. The Samoans fumigate their wounds with the smoke from black walnut wood, whilst some of the tribes in Southern California prepare ointments, and others of Alaska have perfected plasters from cedar-rosin.

The negroes of Victoria are said to *control hæmorrhage* in

ordinary wounds by suction; they also believe in compression and free drainage, and after suppuration subsides, they cover the parts with rosins; they also appreciate the necessity of reopening the wound in case it becomes foul or unhealthy.

Whilst many deny that our North American Indians possess any therapeutic knowledge, it is nevertheless true that in *suppurative and sloughing wounds*, the Shaman prepares a decoction of willows, and by blowing it either directly from his mouth or by the use of a reed, he thoroughly cleanses the wound, and thus employs, whether unknowingly or not, I do not pretend to say, an antiseptic solution, the active principle of which we all know is salicylic acid; moreover, the Dakotas, in suppurative wounds, not infrequently introduce drains made of the bark of trees, and also employ a primitive syringe made from an animal bladder and a quill.

Attemps to *close wounds with sutures* are not infrequent. Schoolcraft refers to some of our Indian tribes who employ sutures made of sinew or tree-bark, which are permitted to remain until after the sixth day. The natives of South Australia resort to compression, and the Winnebagos never permit ugly-looking wounds to heal by first intention, but keep them open, so as to heal from the bottom.

Bartels gives a very interesting account of *a visceral injury* in the person of an Indian chief, who received a punctured wound of the chest anteriorly between the fourth and fifth ribs, implicating the lung and resulted in profuse hæmorrhage, which the Shaman was unable to control. During a violent fit of coughing, a portion of the injured lung was forced through the opening and became incarcerated; this stopped the hæmorrhage, but it puzzled the medicine-men what to do with the protruded viscera. They finally concluded that to return it into the cavity might result in a renewal of hæmorrhage, and therefore decided to cut it off, boil it, and feed it to the patient. This was done, the internal wound filled up with granulations, and the chief made a good recovery, with the exception of a pulmonary hernia,

which manifested itself, however, only during violent fits of coughing.

Another Indian, in an encounter with a grizzly bear, received the benefit of his paws in the shape of two ugly wounds, one affecting the left side of the face, tearing the cheek and ear and destroying the eye; the other penetrated the thorax in two places, blood and air escaping from the pleural cavity. The Indian was picked up for dead and carried to his tepee. Upon showing signs of consciousness, he was placed in a position favorable for drainage, and the wounds were assiduously bathed with some mucilaginous decoctions, and at the expiration of a few months, he was sufficiently well to take a long journey to the agency of Sault St. Marie.

Baker reports the case of a native of Ceylon who encountered a wild boar; the animal having been slightly wounded, threw the native down and performed a rapid abdominal section; a companion rushed to Weddah's assistance, replaced the protruded intestines and applied an abdominal bandage. Baker saw the subject a few years afterwards, and an immense ventral hernia and a transverse bluish ciccatrix eight inches in length, attested the narrow escape of this native. He does not state whether a suture was employed or not; nevertheless, the case must be considered as a remarkable recovery from abdominal injury with visceral protrusion.

A few years ago, I was called to see an Indian girl who had been bitten by a rattle snake; the arm was enormously swollen, and the child showed profound constitutional symptoms, and would probably have perished if her father had not applied a buckskin ligature above the elbow. The wound in the thumb had been freely sucked and the entire arm covered with a poultice of chopped fresh lupine.

Gunshot Wounds.—It is somewhat surprising that there are so few data concerning the treatment of this class of wounds. My experience is that the Indians, as a rule, pay very little attention to gunshot flesh wounds, and simply permit them to heal under the scab, corresponding to our

primary occlusive method. In the treatment of shot fractures they resort to retentive splints, but do not pay sufficient attention to the reposition of the fragments. Bartels, in speaking of the treatment of arrow wounds, refers to the Opoates of Mexico, who remove all blood clots by suction with the mouth, and afterwards dust the wound with peyote powder. In the course of two days, the wound is washed and again dusted with this powder; and after treatment every other day in this manner, the wound is dusted over with finely-powdered lechugilla root. This tribe is said also to employ balsams, prepared from the leaves of maguey, lechugilla, date-palm and rosemary. The Karok Indians cover their arrow wounds with tar from the pinus edulis.

According to Bowditch, *shot injuries of the extremities* among the Ashantis, especially when complicated with hæmorrhage, usually prove fatal, as they have no means for the control of arterial bleeding. Wolff, in speaking of the negroes of Ouango, rather admires their surgical skill, for he saw a man with a shot fracture of the tibia, dressed with a suitable splint made from swamp grasses, and extending above the knee and below the malleoli. This splint secured perfect immobility of the fragments, and was, moreover, supplied with a fenestrated opening for the escape of the wound secretions.

The Mincopies dress their shot wounds with leaves; and the Samoans, for the purpose of removing a barbed spear or arrow, make a counter-opening and push the missile through. The control of hæmorrhage appears to be a difficult task for most of the primitive people, and the majority are helpless in the face of blood. The Haidah Indians and some tribes in Alaska, resort to eagle-down, while the Dakotas, Winnebagos and other tribes employ vegetable styptics; some in conjunction with compression.

The Karayas of Brazil have recourse to circular constriction; and the natives of Humphrey Island and Manahiki apply the spongy part of an old cocoanut. In Morocco, circular compression, and, if necessary, the application of hot pitch are employed. The South Sea Islanders

have some sort of primitive tourniquets, and use them in the treatment of arterial hæmorrhage, in connection with a native fabric made of the paper mulberry tree. The North American Indians, in *violent nose-bleeding*, stuff the nostrils with hot pulverized charcoal.

The actual cautery appears to be a favorite remedy among primitive people for all kinds of ailments. The Mincopies apply a large flat and carefully heated stone in the treatment of skin diseases over the affected part. The Twana–Chemakum and Klallam Indians apply hot pieces of cedar bark in the treatment of rheumatic affections. The natives of Gilbert Island use hot pieces of cocoa-shell, and the Indians of Southern California resort to the actual cautery by means of a live coal in the treatment of a primary syphilitic ulcer. In Morocco, China and Japan, the cautery iron is used in a variety of surgical and other diseases.

Fractures and Dislocations.—On the whole, the results of treatment of these injuries by primitive people are disappointing, and very few of them appear to have the slightest idea of the mechanism of these injuries. While it is true that many of them apply retentive splints, few appreciate the necessity of reposition of the fragments, extension and counter-extension, and the results are seen in many badly united limbs. The Creek and Winnebago Indians are said to have obtained some very gratifying results, while the natives of Southern Australia also manage their case quite well by the application of splints and clay. In many instances, after straightening the limb, it is surrounded with a casing of clay, which in time hardens and prevents displacement. Bartels mentions a fracture of the femur thus treated, where there was no perceptible lameness or shortness; and in the case of a boy who sustained a fracture of the jaw by the fall from a horse, treated by the application of a clay-mask over the entire face, the result was equally satisfactory.

Amputations.—Judging from the meagre data, it would appear that such operations are rarely performed. In Morocco, the ablation of one or both hands is frequently pre-

scribed as a mode of punishment; and Quedenfeldt reports that in these cases the hæmorrhage is controlled by the application of hot pitch. Corre declares that the stumps are very neat and symmetrical, but we have no record where the operation was seen by an intelligent witness.

Hernia is also rarely referred to, although it is well known that the umbilical variety is quite common, especially among the tribes of Africa. Moore saw a medicine-man at Radschputana apply a hot iron over an injured hernia, thus proving his ignorance of the nature of the case; a native of the Loyalty Island operated upon himself for a femoral hernia, but perished in consequence. Schoolcraft says that our Indian tribes are perfectly at sea in the treatment of strangulated hernia, while in the reducible form they employ very suitable bandages. Quedenfeldt's collection of trusses from Morocco shows that they treated their cases quite intelligently.

Operations on the genito-urinary organs are frequently mentioned. Castration appears to be a favorite treatment in hydrocele and orchitis, especially among the natives of Fahiti, Samoa, Tonga and the Loyalty Island. The Chinese are fond of the moxa in the treatment of vesical calculus. Moore saw a case at Radschputana where a vesical concretion had wedged itself in the neck of the bladder and finally ulcerated through the rectum. While most of the natives of India now seek relief at the hands of European surgeons, the operation is frequently performed by professional stonecutters, much in the same way as it was done a century ago in Europe—viz: the finger is introduced into the rectum and the stone pressed against the perineum, an incision is made over the protruding part, and after dividing the walls of the bladder, the stone is removed by means of forceps.

We have the history of a Kiowa chief who, in 1862, received an arrow *wound in the right buttock;* the shaft was removed by the Indian medicine-man, but the iron head having penetrated quite deeply, was permitted to remain. Immediately after the injury the patient voided bloody urine,

but the wound healed kindly, and for six years the chief was able to engage in the chase without inconvenience. In August, 1869, difficulties in micturition and other symptoms pointing to vesical calculus, induced him to seek the advice of Dr. W. H. Forwood, U. S. Army, at Fort Sill, who removed, by lateral lithotomy, an egg-shaped calculus which weighed nineteen drachms, and was found to consist of a uniform deposit of triple phosphate around the iron arrowhead. The patient was almost convalescent on the eighth day, when his band carried him to his camp sixty miles away, where an epidemic of fever was prevailing, and he died nineteen days afterwards. The specimen is now in the Army Medical Museum.

According to v. Miklucho-Maclay, a peculiar operation, called "Mika" and "Kulpi," is practised on boys at the age of twelve and fourteen, among the Diegerrie tribe, residing along Cooper's Creek, in Australia, consisting in a *complete splitting of the urethra along the lower surface of the penis* from the orifice to the scrotum. According to Taplin, the operation is performed as follows: A suitable piece of kangaroo bone is introduced into the urethra as far as the junction of the scrotum, and using this as a guide, the operation is completed by means of a flint knife or shell fragment; sometimes the incision is made without a guide, the penis being placed on a piece of tree bark. After the operation, a piece of soft bark or a piece of bone is inserted to prevent adhesion of the wound surfaces. Of the effects of the operation, we are told that the urethra is no longer a canal, but a shallow groove, with the outlet close to the scrotum, and they have to urinate in a feminine fashion. During a relaxed condition, the penis is very much shrunken, and has the appearance of a large button, while during an erection, it is broad and flat, and in coitus the spermatic fluid is ejaculated outside of the vagina. The motive for this mutilation is stated by the natives to be a limitation of the offsprings, while others simply declare it to be the custom of their ancestors, and they follow it. The women of Nasim confirm the statement that men thus operated upon cannot

beget children. It is a noteworthy fact that the finest specimen of manhood in some tribes are spared from this mutilation; but among the Nasims, the custom appears to be reversed, as only the more promising types are selected as a mark of special distinction for this operation; and the Reporter adds, that they are special favorites among the women. Some of the natives of Brazil are reported to resort to external urethrotomy for the removal of a peculiar transparent fish about two c. m. in length, which is apt to slip in the urethra during bathing.

Operations on the Neck and Trephining.—Corre reports a case of extirpation of the cervical glands among the Fullahs in the territory of Rio-Nuñez, and Flegel brought some instruments on his return from Haussa, which are used for the removal of membranes and secretions in the treatment of throat diseases; the instruments consist of hooks, tongue depressors and hollow chissels and spade-shaped implements.

Primitive Trephining is practiced among the natives of Uvea, one of the Loyalty Islands. Samuel Ella, who has lived a long time among them, says that they are still in the stone age, and that it is a common belief among them that headaches, neuralgia, vertigo and other head symptoms are the result of a crack of the skull or pressure upon the brain, and the remedy consists in making a crucial or T-shaped incision over the soft parts, and subsequently scraping the skull with a piece of glass until the dura mater is reached through an opening about the size of a silver dollar. Sometimes the operation in the hands of an inexperienced operator, or in consequence of impatient friends, is extended to the pia mater, and the patient dies in consequence; as it is, about 50 per cent. prove fatal, but owing to superstition this barbarous custom has become so prevalent that half of the adult population are seen with a hole in their skull. Ella adds, that it has been reported to him that sometimes a piece of cocoanut shell is placed over the opening to protect the membrane, the plate having been previously reduced to a suitable thickness, and neatly polished. Formerly the tooth of a shark was extensively used

in the operation, now they prefer a fragment of glass, and usually elect a point for the operation near the junction of the sagittal and coronial suture.

George Turner confirms these observations, and says that whilst the mortality is great the curative effects are also well marked. Indeed, if these natives only lose 50 per cent. of their cases, the result is as good if not better than those obtained by civilized surgeons before the antiseptic era.

Mr. Umlauff, of Hamburg, is in possession of a mummy from New Caledonia, which shows that the patient perished during the operation, for, as Bartels remarks, the operation was incomplete, and shows no reparative attempts, and that it was not performed *post-mortem* for the purpose of liberating the soul or spirit of the deceased, is shown by the very incompleteness of the operation.

Trephining is a very ancient operation, as shown by the numerous skulls found in different parts of the world, which date back to the neolithic period. Pruniers and Paul Broca have made a special study of the subject, and whilst some of the skulls indicate that the operation was performed *post-mortem*, a goodly number present signs of reparative efforts, and others indicate that many of the subjects survived the operation for some time. In none of the specimens, had the operation its seat in the frontal bone, whilst in the mummy referred to, and in a collection of pre-columbian, Peruvian skulls, the operation was invariably over the frontal bone. Squier, who has studied many of the specimens, is of the opinion that the Peruvians executed the operation by means of a chisel.

Abdominal Operations.—It must be a matter of agreeable surprise to the abdominal surgeon to learn that some of the brilliant operations have been performed by primitive operators. Bartels quotes Bancroft, who cites the case of an Onkanagan Indian, upon whom the abdomen was laid open and a large amount of fat removed; the wound was closed with stitches and the patient recovered. A Chippeway Indian is reported to have successfully performed *Cæsarian section* upon his own wife, whilst Felkin, in 1879, witnessed

at Kahura, in the Uganda of Central Africa, a Cæsarian section, peformed by one of the medicine men of the tribe, and describes the operation as follows:

The woman, a primipara, aged 20, was placed upon a reclining couch, and after a partial stupefaction by means of banana wine, she was secured across her chest to the bed with a broad bandage made of bark fibre, another bandage secured her thighs, the ankles being held by an assistant; a second assistant stood on the right side of the bed and fixed the abdomen, whilst the operator with knife in his right hand, stood on the left side of the bed. After murmuring some incantation, he washed his own hands and the abdomen of the patient with some banana wine and subsequently with water. He uttered a shrill note, which was answered by the multitude without, and made his incision, reaching from the pubis to the umbilicus, dividing the abdomen and uterus with one stroke of the knife, so that the amniotic fluid gushed forth. All bleeding points in the abdominal wall were promptly touched by an assistant with a red-hot iron. The operator quickly enlarged the uterine incision, whilst an assistant held the wound apart, and when the uterine opening was sufficiently enlarged, he extracted the child, which was given to another assistant, and the umbilical cord was promptly divided. The operator now laid his knife aside, and rubbed and pressed the womb with both hands; he also introduced his right hand into the uterine cavity and dilated the cervix with two or three of his fingers, and then removed the placenta and blood clots through the abdominal wound. In the meantime the operator endeavored to secure firm contraction of the womb, while the assistant cautiously applied the actual cautery to all bleeding points, and another assistant was kept busy trying to prevent protrusion of the intestines. The uterine wound was not sutured; the assistant relaxed his hold of the abdominal wound, which was covered with a porous grass mat, and the patient was lifted up and partly turned upon her side to permit of free drainage of the abdominal cavity, after which she was gently placed upon her back, the mat removed, and the abdominal wound closed by means of seven slender but well polished nails, resembling accupressure needles and a twisted suture made of vegetable fibre. The wound was covered with a thick paste, made from the chewed pulp of two different roots, over which a warm banana leaf was laid, and the whole secured by a

firm bandage made of Mbugu-fibre. The woman bore the operation without complaint, and one hour afterwards rested very comfortably.

Felkin reports that the temperature on the second evening after the operation was 101°, and pulse 108. The child was put to the breast two hours after the operation; on the third morning the dressings were removed, and a few of the needles; the remainder were taken out on the fifth and sixth days. There was very little pus, which was removed by means of a spongy pulpa; and on the eleventh day the wound had entirely healed.

It may be argued that the ancient Peruvians resorted to trephining for the purpose of liberating an evil spirit, but no such superstitious notion could have actuated the operation just referred to, or the following instances, which actually pre-suppose physiological knowledge, in so far as *ovariotomy* has been performed by primitive people for the express purpose of rendering the woman sterile. Roberts saw such a case in India, and Mac Gillivray noticed at Cape York, in Australia, a dumb female on whom ovariotomy had been performed by a native medicine-man, so that she might not give birth to mute children. Rotsh observed among the natives of Australia, at Parapitshure Lake, a peculiar looking girl, who avoided the company of other women and was almost in constant company of young men, sharing their occupation and hardships, though manifesting no special fondness for them. The native guide pointed to the large cicatrices in the groin of this unfortunate girl, and in broken English explained, "All same spayed cow." Rotsh adds, that she was not the only specimen he saw, but that it was the custom to supply a limited number of hetaira, who cannot become mothers.

In conclusion, permit me to repeat that the within notes, with slight exceptions, are a condensation of the subject-matter, compiled by Dr. Bartels, whose work is a monument of pains taking research and a most important ethnological contribution to the early history of medicine.

1819 *Q Street, N. W.*

Art. V.—Analgesia and Sedation an Essential Adjunct to Treatment.

By JOHN J. SULLIVAN, M. D., New York, N. Y.

University of the City of New York.

On account of the frequency with which pneumonia in late years is accompanied with grippal symptoms, the treatment, to a great extent, has been modified or changed. The essential features in the result desired are a diminution of the pain and a lowering of the temperature. Opinions differ as to whether a reduction of the temperature influences the course of the disease, but a concensus of opinion is that *antipyretic* treatment is distinctly called for in the beginning, and an analgesic at all times, if needed to assuage suffering. *The antipyretic should be antikamnia, and the analgesic is supplied by codeine and antikamnia together.* This is given every three or four hours in tablets containing 4¾ grains antikamnia and ¼ grain codeine, throughout the period of congestion and consolidation. Where there is great restlessness, this will have a delightful effect.

In the nocturnal pains of syphilis, in the grinding pains which precede labor, and the uterine contractions which often lead to abortion, in tic-doulereux, brachialgia, cardialgia, gastralgia, hepatalgia, nephralgia and dysmenorrhœa, immediate relief is afforded by the use of this combination, and the relief is not merely temporary and palliative, but in very many cases curative.

In the neuroses of the respiratory organs, great relief is afforded by the use of this combination. A paroxysm of asthma is often cut short by a full dose; hay-fever or autumnal catarrh is benefited by its use.

In the harassing cough of phthisis, or in the pain of pleuritis, in the painful sensations accompanying bronchitis when the tubes are dry and irritable—as they usually are—the blending of codeine and antikamnia will not be found wanting in its action, but will give results that are gratifying to both the patient and the medical attendant. As a

producer of sleep it will be found efficacious. This is doubly true when there is great nervous excitement.

In pulmonary diseases this combination is worthy of trial. It is a sedative to the respiratory centers in both acute and chronic disorders of the lungs. Cough in the vast majority of cases is promptly and lastingly decreased and often entirely suppressed. In diseases of the respiratory organs, pain and cough are the symptoms which especially call for something to relieve; this tablet does it, and in addition controls the violent movements accompanying the cough, and which are so distressing.

This combination is the remedy for diabetes and is superior to any other in diminishing the quantity of sugar in the urine, and also in diminishing the quantity of urine itself in diabetes mellitus. The bulimia and polydipsia are lessened by its use, and probably the changes in the nervous system which accompany or are causative of the disease, are arrested or prevented. It also prevents waste. It controls restlessness; it relieves insomnia; it relieves distressing nervous symptoms. It relieves the craving of the stomach, and lessens the frequency of the calls to urinate.

It is not claimed that the combination will cure diabetes mellitus, but there will be, in many cases, arrest of the disease, with prolonged periods of good health, and cure in some cases.

266 *West 38th Street.*

Chilblains, Oil of Eucalyptus for.

It is said that oil of eucalyptus, frequently applied with a camel's hair pencil over the surface of chilblains, relieves pain and soon cures them.

Borax Checks Perspiration.

It seems to be well sustained that bathing in water in which borax is dissolved—about an ounce or more to gallon of water—will check perspiration.

Art. VI.—Vesical Calculus in Females.*

By REB. VANCE SHERRILL, M. D., Bland C. H., Va.

Frequency.—Vesical calculus in the female is a rare affection, occurring only once in every twenty cases as met with in the male. This fact is explained by the shortness of the female urethra, and by its dilatability. On this account small particles are furnished with a ready means of escape, instead of being kept in the bladder to form nuclei for stone, as would occur in the male.

Cause—Exciting.—The variety of objects that have been introduced into the bladder and have been found in the centre of calculi is something phenomenal. Any or all of such objects, if not removed, will sooner or later form a nucleus for the formation of a phosphatic calculus. Now and then catheters have been broken off and left in the bladder; pessaries have been introduced through an abnormally dilated urethra; straws, pipestems, goose-quills, etc.—sometimes used by the patient for drawing off the urine—are allowed to escape into the bladder from the fingers; teeth from a dermoid cyst; seeds of various kind, fæcal particles, hairpins, needles, needle-cases, nail- and tooth-brushes, pieces of wire, tooth-picks, and so on, *ad infinitum*, are all among the occasional nuclei. Other nuclei may be furnished by the bladder itself, as blood-clots, pus-cells, particles of tumors, and, may be, colonies of bacteria (?)

An ulcerated or abraded surface will cause an incrustation; hence it is claimed by Emmet that the operation for vesico-vaginal fistula is a fertile source for stone in the female bladder, but says it may be avoided by greater care in the apposition of the surfaces. The formation of stone is facilitated by the presence of vesical tumors, etc. "Any disease of the kidneys producing excessive secretion of renal mucus, and any catarrhal condition of any portion of the urinary tract, is liable to or will favor the formation of

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* Read before the Medical Society of Virginia in session in Wytheville, Va., September 4, 1895.

stone. Constitutional diseases, especially gout, rheumatism, and lithæmia, favor the development of stone."—*Amer. Text-Book Surg.*)

Some countries and localities are considerably more affected by calculous disorders than others, but no country is altogether free from them. Stone is common in England, France, Ireland, Egypt, and the United States. It is of more frequent occurrence in Kentucky, Tennessee, Virginia, and Ohio, than in any other States in the Union. It is of rare occurrence in Norway and Sweden. "In Christiana, 3,211 patients were treated in the general hospital during four years, and among them there was only one case of stone in the bladder, including both sexes. In a large general hospital in Sweden, not a single case was received in fifteen years."—(*Roberts.*)

The determining cause of urinary calculi is still but imperfectly known. The more usual are the following, according to Roberts: 1, An excessive proportion of the precipitated ingredients in the urine; 2, A too acid state of the urine, which diminishes its solvent power over uric acid and the urates; 3, An alkaline state of the urine; 4, Deficiency of chloride of sodium and alkaline phosphates in the urine, which diminishes its solvent power on uric acid.—(*Heller*); 5, The presence in the urine of an abnormal constituent of sparing solubility, such as cystine and xanthine.

Varieties of Stone.—According to Roberts, urinary calculi are classified with reference to their chemical composition into eight *primary* and one *secondary* species. The *primary* are: 1, Uric acid; 2, Urates; 3, Oxalate of lime; 4, Cystine; 5, Xanthine; 6, Urostiolith; 7, Bone earth (basic phosphate of lime); 8, Carbonate of lime. The *secondary* species is composed of phosphate of lime and the ammonia-magnesian phosphate.

Urinary concretions, in addition to the above, always have slight admixtures of animal matter, such as mucus, epithelium, etc.

The secondary variety is the more common in the female.

The time when secondary deposit begins to form is uncertain,

but depends very greatly on cystitis. Some authors claim that it occurs very early—even within ten days or two weeks.

Sometimes small calculi, that weigh only a few drachms, are found covered with phosphatic deposit. In other instances, large calculi, weighing many drachms, are found free from phosphatic incrustation. "So long as the urine remains acid, the surface of the stone remains free from phosphates; but as soon as the urine becomes ammoniacal, the secondary deposit begins to accumulate."

Calculi may consist of one ingredient entirely, as uric acid, oxalate of lime, etc., or two or more primary deposits may be found in the same stone in alternate layers, and all covered with a secondary layer. The more common alterations are uric acid and oxalate of lime. In an alternating calculus, there may be twenty or thirty layers, or as small a number as two or three. The time allotted to this paper will not permit a full description of each variety of calculi. We therefore call your attention to only one or two varieties.

Uric acid calculi is by far the most frequent species when both sexes are considered. It occurs in five-sixths of all renal and vesical concretions. They are derived from the kidney, and are discharged one at a time, or in larger quantities. They are reddish, brownish, or yellowish in color. If retained in the bladder, they become flattened, oval calculi. Minute tubercles are found on their surfaces, which are worn into facets, if more than one stone co-exists in the bladder. They are hard, and attain the weight of a drachm to an ounce, or even four or five ounces. They are closely related to gout. The urine is acid and highly colored generally in cases of uric acid calculi.

The phosphatic variety of calculi is called secondary because the deposit is formed from the changed character of the urine; whereas the primary is deposited from the unchanged urine, owing to some inherent vice in its composition. When the urine becomes decomposed and ammoniacal, its earthy constituents are precipitated as sediment, composed of phosphate of lime and the ammonio-magnesian

phosphate, frequently mixed with urate of ammonia and carbonate of lime. This is identical with the secondary deposit on urinary calculi. The fetid deposit on public urinals is of the same nature. "Any obstacle which tends to delay the urine in its passage through its natural channels, and anything that tends to prevent its complete evacuation, will bring about this change."—(*Roberts.*) Nearly every calculus that remains in the bladder is sooner or later covered with this deposit. Indeed, it is generally the ultimate stage and last chapter in the history of every urinary concretion, unless its career be cut short by surgical interference, or spontaneous expulsion. Calculi of this nature may go on increasing for an indefinite period, completely filling the bladder and attaining an enormous weight. Dr. Utterhaven removed a large oval concretion, weighing 40½ ounces, from a man aged 39. It had been growing from the age of 12, and completely filled the bladder.

In their physical character, phosphatic calculi resemble bone-earth phosphate. They are usually friable, often irregular in shape, and have on their surface brilliant points of triple phosphate crystals. They break down readily under the lithotrite, but are not always suitable cases for operation on account of grave anatomical lesions. Sir B. Brodie says these cases are especially suited for treatment by acid injections, being soluble, especially in the mineral acids.

Symptoms,—In a great many cases before the development of the vesical symptoms, we have a history of nephritic colic, with all of its characteristic agony. A history of this sort is an important indication where stone is suspected. If this clinical history has been clear and unmistakable, it should lead the surgeon to repeated examinations, especially if the stone has not been voided with the urine. A perfectly smooth stone, which is rare, may occasion no symptoms at all or, at most, nothing more than a sudden cessation of the stream on the attempt at micturition before the completion of the act. This symptom is not as frequent as has been supposed. As the stone grows, this occurrence of sudden stoppage of urine often entirely disappears, as the stone is

then no longer able to enter the vesical neck, or it may become encysted.

Most stones have an irregular surface, and give rise, sooner or later, to vesical irritation, and eventually to catarrh. Frequent urination then takes place more by day than by night. The patient is compelled to empty the bladder every two or three hours—sometimes every few minutes. The desire to do so is irresistible, and often very sudden. It is increased by active motion, as from riding on horseback, or in vehicles over rough roads, or by walking.

The pain varies with the size and shape of the stone, being often greater when the stone is of small size than when large. In the former case the degree of motion imparted to the calculus during the movements of the body is greater than when it is of large size, and has made for itself a place in the bladder. A stone may be of large size, but if partially encysted, or held in place by bands of organized lymph, may give rise to little disturbance.

Micturition, besides being painful, is often difficult. The pain is darting and burning in character, constant in the vesical region, or shooting into the loins and thighs.

Reflex pains in distant parts of the body may be associated with stone. They may be felt in joints, the rectum, the perineum, the extremities, the back, stomach, and even in the foot (podalgia). The pain is most severe at the termination of micturition, as then the inflamed mucous membrane of the vesical walls comes in contact with the rough calculus. It often continues for a long time, or until sufficient urine has collected to remove the walls of the bladder from contact with the stone. The pain is increased by roughness of the stone and during attacks of cystitis.

Hæmaturia is seldom lacking, and is said to be characteristic of stone by some authors; but it is seldom of value unless associated with other symptoms. It is more liable to occur at the end of micturition, when the bladder contracts upon the rough stone, and thus wounds the mucous membrane.

Children are apt to suffer from a continual irritation of

the external genitals. The clitoris is enlarged, due to frequent rubbing, and the habit of masturbation is often acquired. Prolapsus of the rectum, and sometimes of the urethra, occurs in children from the vesical tenesmus. They are more liable to incontinence of urine.

Many cases occur in which calculi are expelled spontaneously through the urethra. This sometimes take place through the vaginal septum as a result of suppuration—a fistula having been formed. The expulsion, however, is much more liable to take place through the urethra. The passage of a stone three to four centimetres in circumference has occurred repeatedly through the female urethra.—(*American System of Gynæcology.*) Bryant has seen a stone measuring 26x14 centimeters (8x5$\frac{3}{5}$ inches) in circumference, expelled through the urethra, without causing incontinence. So fortunate a termination is not often to be anticipated.

The existence of the entire group of the above symptoms cannot be taken as positive evidence of stone unless a further examination is made and the stone found and touched by the sound. "Even then its presence must be made evident to the sense of hearing, as under no circumstances can all possibility of error be eliminated."—(*Amer. Text-Book Surg.*)

Some difference of opinion exists as to the degree of evidence necessary before undertaking an operation. Some surgeons consider it sufficient evidence to feel the stone with the instrument, but the majority prefer to elicit the characteristic click. The latter is by far the most satisfactory symptom, but, while this is not *prima facie* evidence, yet it reduces doubt to a minimum. In my own experience, I have regarded the touching of the stone with the sound sufficient evidence to justify an operation, and have acted upon that alone.

Diagnosis of calculus, in most cases, is easily made by means of the sound. The characteristic click above mentioned is almost unmistakable. A grating sensation alone is not so reliable, as this may occur from a phosphatic deposit on the wall of the bladder.

Vaginal touch will often reveal the pressure of a hard body in the bladder, and ballottement may be obtained if the bladder is full of urine. In children, rectal touch will give like symptoms. The stone can sometimes be grasped between the fingers by means of bimanual palpation, and its size can be pretty well estimated.

If the stone does not appear to change its position, but is found in the same locality of the bladder at all times, it is good evidence that it is encapsulated or bound down by bands of lymph.

If any doubt exists as to diagnosis, digital exploration can be made through the dilated urethra. Very little skill is necessary in using the sound in the female bladder. It should be thoroughly cleansed and dipped in boiling water previous to introducing into the bladder. The different parts of the bladder should be thoroughly explored.

Calculi have been mistaken for papilloma, fibroids of the anterior uterine wall and the uterus itself anteverted. Any growth covered with phosphatic deposit elicits a very deceptive touch, not unlike that of calculus.

Some sources of failure to detect stone are: 1st, Where the stone is completely encysted, having little or none of its surface exposed to touch; 2d, Where a cul-de-sac, or pouch, is present, containing the stone and connecting with the bladder by a small opening.

Prognosis.—The operation for stone in the female bladder is much safer and easier than in the male, on account of the shortness of the urethra, its dilatability, and the easy access to the bladder through the vagina. The prognosis is, therefore, as a rule, more favorable than in the male, but depends upon the *complications.* Some of these may be serious, viz.: A chronic cystitis, a vesico-vaginal fistula, in which there is much destruction of tissue, or a degeneration of the kidneys. When complicating pregnancy, prognosis is regarded serious. It is not so favorable in children, on account of the smallness of the parts, making it necessary, sometimes, to resort to hypogastric cystotomy, which is an operation always attended with more or less danger. *Wresham* (in American

System of Gynæcology) reports 56 cases of operation for stone in girls under fifteen. Hypogastric cystotomy was performed in four, two of whom recovered; of the remaining 52, one proved fatal; seven were followed by permanent incontinence (all cases of lateral incision of the urethra); 44 were completely successful.

Treatment should vary with each case, according to the size and density of the stone, the complications, age of patient, experience of the surgeon, etc. There are four operations that have the preference, as experience has abundantly proven. They are: 1, Dilatation of the urethra; 2, Lithotrity or litholapaxy; 3, Vaginal cystotomy; 4, Hypogastric cystotomy.

1. *Dilatation of Urethra.* The urethra should not be dilated, as a rule, beyond four-fifths of an inch in adults, and three-fifths in children. Some authors, to whom I have already referred, claim that dilatation can be carried much further, without resulting incontinence. I have dilated the female urethra over an inch, with no bad results. This operation, then, is only suitable for stones one inch or less in diameter.

The patient should be fully under the influence of the anæsthetic and in the dorsal position. Dilatation may be commenced with the little finger, followed by the forefinger; then by the dilator. After dilatation has been carried to the extent desired, the stone should be grasped with the aligator or Simon forceps, and withdrawn, provided this can be done without using force, which must be carefully avoided; else the urethra will be wounded. If one or two fingers be inserted into the vagina, or in the rectum in children, it will greatly facilitate matters by helping to grasp the stone, in its most favorable position. Our author recommends dilatation and conjoined manipulation, alone, as a means of extraction—the stone being worked into and along the urethra by means of the fingers. This method ought to be tried before resorting to forceps, being much less liable to cause a urethral tear. I have failed completely in my efforts to remove calculi through the dilated urethra.

2. *Lithotrity or litholapaxy.* Any stone that cannot be easily drawn through the urethra by the previous method, should, if possible, be crushed ; 150 or 200 grams of water are injected into the bladder, after which the lithotrite is introduced, and the stone crushed. Bigelow's or Thompson's lithotrite are both recommended. Strength of instrument is the main requisite. If an evacuator be necessary, Bigelow's is, in the opinion of most surgeons, the best. The patient should be prepared as in other operations for stone. The bladder emptied, washed out with boric acid solution, and then as much of the solution retained as possible. For a full description of this operation, I refer to any good work on surgery. One objection to this operation is the inability to keep sufficient water in the bladder, so as to use the lithotrite. Another, is the danger of leaving particles within the bladder, that will probably act as a nucleus for the formation of another stone. The latter objection cannot well be sustained for stone in the female bladder, for anatomical reasons heretofore mentioned.

Lithotrity has its drawbacks, and in the hands of the inexperienced is liable to result in injury to the bladder or urethra from the awkward use of the instruments, or from the sharp fragments of stone.

3. *Vaginal cystotomy.*—This operation should be performed when the stone is large and too hard to be easily crushed with the lithotrite, or when incontinence is present and renders it impossible to keep the bladder full enough of water to use the lithotrite. It should be resorted to when the stone is encapsulated or lies in a cystocele, or in the opening of a ureter, or when it is any way inaccessible through the urethra, or in cases of severe cystitis, where drainage of the bladder is advisable.

The operation need not be restricted to so narrow a limit. It is a simple, clean operation, devoid of danger, quickly and easily performed, and is the best adapted, I think, to the aged or weakly patient, being objectionable only on account of the resulting fistula.

Preparatory Treatment for Vaginal Cystotomy.—To reduce

the irritation of the bladder as much as possible, the patient should be put to bed two or three days before the operation. The bladder and vagina should be irrigated with a strong boric or weak bi-chloride solution once or twice a day during this time, and just prior to the operation. At the same time boric acid, in 5-grain doses, should be given internally three or four times a day. A light diet is advisable. The bowels should be kept regular, and an enema given one or two hours before operating. The pubes and perineum should be shaven, as this lessens the risk of infection. The patient should be placed on the table in the dorsal or Simon's breech-back position, employed in operations for vesico-vaginal fistula. Each leg is to be held by an assistant, one of whom can also make traction with Sims' speculum upon the posterior vaginal wall. Another assistant is needed to administer the anæsthetic. A Sims' speculum, a tenaculum, a probe-pointed bistoury, a metal catheter or sound, possibly needles, needle-holder, sutures, with sponges, and a rubber sheet, are really all the instruments necessary.

The anterior vaginal wall being well exposed, a longitudinal incision is made through it in the bladder, commencing just forward of the cervix uteri, or three to three and a half inches from the external opening of the vagina, *carefully avoiding the urethra.* It may be necessary to enlarge the cut by a transverse incision, as recommended by Simon. The opening must be large enough to permit of easy extraction, as any bruising or laceration will probably cause sloughing and a resultant fistula, which may prove difficult to heal. By introducing the finger through the incision, extraction is easily effected, unless the stone be unusually large, in which case, it may be crushed by Erichsen's or Dolbeau's forceps; after which, evacuation is easily effected by means of a stream of water forced through the urethra, care being taken to remove all the fragments and to search carefully for other calculi. The bladder should then be flushed out with a warm solution of boric acid or weak solution of bichloride, until the fluid comes out clear. This should be kept up ten days or longer, depending upon the

cystitis. Hæmorrhage is slight, as a rule. If there is a chronic cystitis (and there nearly always is), the incision should be left open for drainage, and a self-retaining catheter left in the bladder, removing it once or twice a day and cleansing it. If no cystitis exists, the incision is to be closed with interrupted silver sutures. I believe, in cases in which no cystitis exists, the incision might well be left open, as it will nearly always unite and occasion but little inconvenience, especially if the general health of the patient be cared for. The patient should remain in bed ten days or two weeks, being allowed to assume any position she may wish.

Vesical tenesmus, if present (and it is very apt to follow the operation), should be relieved by morphia or hyoscyamus. Free evacuations from the bowels should be had daily from the first.

Vaginal cystotomy is practicable in children also. The hymen should be incised and the vagina rapidly dilated sufficient to give room for operating, and to allow the passage of a moderately large stone. Seven of Wresham's cases were treated in this way, with good results.

4. *Hypogastric cystotomy* is seldom necessary in operations for vesical calculi in females. I therefore omit a description of this operation. I had intended to dwell upon the solvent treatment, as well as the preventive, of urinary calculi, but the time allotted to each paper will not permit. In conclusion, I report two cases:

Case I.—On October 10, 1888, with the assistance of Dr. J. Q. Stovall, of Raleigh Courthouse, W. Va., and her husband and a relative, I performed vaginal cystotomy on a married woman, mother of nine children, removing one calculus, one and a half inches long and one inch in diameter. It had been forming for nearly three years, and was partially encysted.

I first attempted to remove it by dilatation of the urethra, but failed. Chronic cystitis was present; therefore no attempt was made to close the fistulous openings. In two weeks, complete union of the parts had taken place, and the patient was soon able to attend to her household duties.

Case II.—Married; mother of one child. Bed-ridden for eighteen months. She, like the woman in the Scriptures

had suffered many things of many physicians. She had been treated *abundantly* for prolapsus of the uterus, and visible signs of the free use of lunar caustic appeared through the vaginal speculum. The ancient method of almost standing the patient on the head, by elevating the foot of the bed and by propping up the patient's hips with a multiplicity of pillows and heavy bed-quilts, had been *fully tested* by a neighboring quack for a period of twelve months or more.

This patient was weak and exceedingly nervous, with an obstinate case of cystitis. On December 31, 1891, with the assistance of Dr. J. C. Blackburn, of White Gate, Va., a medical student, and the husband, I performed vaginal cystotomy, removing three small calculi, nearly oval in shape, none of which were over a half inch in diameter. Under the use of tonics, diuretics, and daily washes for the bladder of solutions of boric acid, the patient made an uninterrupted recovery.

At the end of three weeks, the fistulous opening had closed, without the use of sutures. It was sometime before the patient could walk, having been so long confined to bed. Two years after the operation she was delivered of a male child, weighing nine pounds.

Better operators would, in all probability, have removed these stones through the urethra, but having been successful, I offer no apology for having removed them by vaginal cystotomy.

Art. VII.—The Surgery of the Prostate Gland *

By GEORGE FOY, F. R. C. S. I., Dublin, Ireland.

Surgeon to the Whitworth Hospital, Drumcondra, Dublin.

On the 20th February, 1806, Mr. Everard Home read a paper on "Enlargement of the Prostate Gland" before the Royal Society of London, from which date the scientific treatment of enlargement of the gland may be said to have commenced.

Long prior to this, however, diseased conditions of the gland had attracted the attention of anatomists and surgeons. The thirty-seventh letter of Morgagni deals with

* Prepared for Southern Surgical and Gynæcological Association in session in Washington, D. C., November 12–14, 1895.

the question of prostatic calculi, and he quotes cases which occurred in the practice of well-known surgeons, amongst others naming James Douglas; and writes of the secondary effects of enlargement thus: "When sabulous and viscid matter abounds, particles of them remaining after the last drop of urine has been expelled may sometimes concrete at the part where a hollow is occasioned by the projection of the prostate gland in the male, and of the corpus glandosum in the female, and here it may acquire an annular form as if it had been cast in a mould"—a condition of affairs which actually came under the notice of Sir Henry Thompson more than one hundred years after. The forty-sixth letter of the marvellous collection gives the case of an old man, the middle lobe of whose prostate gland resembled a pear, and he remarks: "How far the prostate gland is liable to excrescences which raise themselves up from its superior circumference, or all around, or from a certain part, into the cavity of the bladder, it would be very easy for me to show." He quotes from Fantonus the case of a man, sixty years of age, who, "having died, after a long-continued and troublesome stillicidium of urine, had the prostate not only purulent, hard, and immoderately tumid, but produced far and wide, towards the lower part of the bladder; also the capacity of the bladder was very small and the membranes were very thick." Troublesome retention of urine occurring occasionally is particularly dwelt on by Morgagni as a symptom of enlarged prostate. Indeed, dysuria is mentioned in the thirty-first aphorism of Hippocrates as one of the troubles of old age. As we read the clinical pictures of the suffering entailed by an enlargement of the gland, we cannot help being surprised to find how little the older surgeons did to relieve this very common and distressing disease. Although the general level of surgery was low in the 15th, 16th, 17th and 18th centuries, there were withal "giants in those days," who found light in darkness. In 1490—a date prior to the memorable first journey of Columbus—the kidney was excised from an archer of Baguolet; in 1560, Rouset repeated the operation; and in 1652, Domenico March-

etti, of Padua, performed the operation on Mr. Hobson, H.B.M.'s Consul in Venice. "The very excellent Fantonus" excised the spleen of a woman, "who lived for five years after the operation; and, having conceived and brought forth in the meantime, least any one should doubt of the extraction of this viscus, no spleen was found in any part of the body upon dissection; only cicatrices appeared in the neighboring parts, to which it is wont naturally to adhere."

Colot, in 1475, by permission of Louis XI, performed suprapubic lithotomy successfully as an experiment on a criminal, and Pierre Franco performed the same operation in 1556 on a child two years old. Scultetus, in 1661, pictures and describes laparotomy; suture of the peritoneum and the use of the catheter; the introduction of which instrument, for the relief of prostatic retention, Sir Benjamin Brodie considered was due to Sir Everard Home. Mary Donnelly, "a handy woman," a native of the little village of Clogher, in the County Tyrone, in January, 1738, successfully performed Cæsarean section on Mary O'Neale of the same place. Percival Pott opened the longitudinal sinus to relieve a headache; and O'Halleron, of Limerick, slit the *corpus callosum* from its anterior to its posterior border, simply to test the truth of Decarte's theory as to its being the seat of the soul. The history of the operations for aneurism by Antyllus, Anel, and Hunter, does not need telling. But the memory of John Bell suffers from the greater glory attained by his pupil, the distinguished Virginian, McDowell, the ovariotomist, whose courage, dexterity, and self-possession in the presence of danger had, I think, their genesis in the example of his great teacher, who, to remove foreign bodies or liberate purulent fluid, did not hesitate to cut freely into the pleura and even into the pericardium.

Littre, whilst yet a young man, performed cholecystenterostomy, and M'Keever, of this city, in 1824, successfully removed eighteen inches of small intestine (ilium) from a parturient woman. No cavity or viscus escaped the surgeon's knife—the bladder was opened by Pierre Jacques, by

Rau, by Chaselden, the prostate gland was torn to shreds by the Marian lithotomy operation; and, as late as 1816, Sanson revived the old method of cutting into the bladder from the rectum.

How can we explain the fact that operative interference for the relief of retention due to enlargement of the prostate—so common, so painful, and so dangerous—was neglected? Two things, I think, contributed to this neglect—(*a*) the theory ascribed to Hippocrates, that wounds to membranes were fatal, and (*b*) the dread of urine coming in contact with the fresh wound; and, we may add, the dread of wounding the peritoneum, which surgeons had at the beginning of the century. All attempts to reach the bladder by the suprapubic method incurred the risk of wounding the peritoneum. The membrane, occasionally, was found to fall over the anterior surface of the bladder. Kirby found and described such cases; but the surgeon who would cut down on an iliac aneurism and remove the peritoneum from the blood-vessels, would, nevertheless, dread a fold of peritoneum on the bladder surface, and by preference would open the bladder through the rectum. It is hard to understand this state of mind.

John Hunter came very near revolutionising the surgery of the bladder, when he tapped the viscus and afterwards cut down on the canula, sutured the wound, and allowed the bladder to fall back into the pelvis. Hunter was, however, in no mood for pondering on the operation and its success; he remembered only the fact that, acting on the diagnosis of a friend, he had made a mistake. When Hunter died, the last hope of progress for many years was lost. Brodie, who made the dissections for Sir E. Home, could only propose tunnelling the enlarged prostate—an operation which quickly fell into discredit when Mr. Barnsley Cooper, in 1851, published his case of fatal hæmorrhage following the perforation of a diseased third lobe. A step in the right direction was, however, made when Sabatier recommended a long catheter "with a very long beak" in cases of prostatic disease. Hoping to avoid the trouble of

frequently passing the instrument, M. Cruvielhier recommended that the catheter be retained in the urethra, and, practically, nothing more was done for many years. Patients were condemned to a life of catheterism—a condition which to the leading surgeon of the day, Sir B. Brodie, appeared very tolerable.

Brodie died in 1862, when anæsthetics were being universally used; and the rising generation of surgeons, no longer trammelled by authority but armed with chloroform, commenced to seek for some more promising remedy than the prostatic catheter.

Dieulafoy, in 1870, introduced his aspirator, and who has not felt the advantage of having such a prompt method of relief for the poor agonized victim of an enlarged prostate? How different from the oft-repeated attempts to pass catheters, small and large, and all the delay and inconvenience of getting the patient into a hot bath, and soforth. Aspiration is, however, simply a palliative measure. M. Mercier, whose prostatic catheter is so well known, was perhaps the first to recommend prostatectomy, which he performed by passing his *inciseur* along the urethra until it came to the bar of tissue which passes between the lateral lobes of the gland. The operation was little more than a modified urethotomy, but it was a step in the right direction, one fruitful of good—"a cloud no bigger than a man's hand," yet destined to fall in showers of blessings on suffering humanity.

To Gouley, of New York, is due the credit of recognizing that incising the prostate was insufficient, and to carry out his idea, he devised an instrument with which he punched out the obstructive portions of the gland. Mr. Harrison's paper, read at Copenhagen, in 1884, on the treatment of prostatic obstruction by section of the gland, was a marked advance, and told that the current of surgical thought was in favor of radical measures being adopted.

The advantage of aseptic surgery had now come to be recognized, and the peritoneum no longer frightened surgeons. Dittel, in 1885, performed supra-pubic prostatec-

tomy, and he was followed in the innovation by Trendelenberg, Belfield, Schmidt, and M'Gill, of Leeds. Three cases by the latter were brought before the Clinical Society of London on the 11th of November, 1887. After the usual supra-pubic cystotomy, "the growth was removed partly by tearing with forceps, and partly by cutting with scissors, or with a strong cutting instrument, which he (Mr. M'Gill) devised for the purpose."

The same volume of the Clinical Society's *Transactions* (Vol. XXI) contains an account by Sir Henry Thompson of an enormous prostate, which so inconvenienced the patient, a man sixty-four years old, as to make his life miserable. "He passed all, or nearly all, his urine by catheter, requiring it every hour and a half, night and day." This case is of more than ordinary interest, for in November, 1885, Sir H. Thompson had, by a perineal incision, made a digital examination of the bladder, divided a stricture by internal urethrotomy, "so as to pass a No. 15 (English size) metal dilator with ease," yet, in 1886, he had to pass a catheter, "on the average, twenty times in the twenty-four hours." His condition became so bad that supra-pubic cystotomy was performed on the 29th of April, 1886. In April, 1887, he walked into Sir H. Thompson's rooms, "looking the picture of health." "Owing to the dread of urine infiltrating the tissues, he wore a silk web, gum elastic tube, which connected the interior of the bladder with an ordinary urinal attached to the leg."

To the great advantage of digital exploration was soon added the sense of sight; and whether we give credit to Nitze or Leitar for the introduction of the cystoscope, or divide the honors between them, we cannot but recognize the immense value of the instrument which enables us to explore the cavity of the viscus as perfectly as we may examine the mouth.

A prostatic hypertrophy may prevent the introduction by the urethra of the cystoscope, but in doubtful cases an exploratory cystotomy, and the introduction of the cystoscope through the wound are not only justifiable, but demanded.

Casper, of Berlin, like other surgeons, wishing to avoid the hæmorrhage which occasionally attends prostatectomy, has tried to bring about a diminution of the enlarged prostate by passing a continuous current through it, the negative pole being thrust into its substance through the rectum. Of the two cures effected, one was produced at the expense of a fistula—not a very agreeable outlook. In cases of organic stricture, I gave electrolysis a fair trial, but, failing to get any good results, I do not fancy the treatment in prostatic hypertrophy.

White, of Philadelphia, in 1893, suggested castration. He writes: "It occurred to me sometime ago, if the analogy between uterine fibro-myomata and prostatic overgrowth was a real one, castration might have the same effect on the latter that oöphorectomy has upon the former, and cause a shrinkage of atrophy which would result in practical disappearance of the obstruction." The operation is on its trial; so far, it seems to have given good results. In one case, however, in which I performed the operation, the patient became melancholic in a few months. After such an experience, I naturally give some other method the preference. Ligaturing the internal iliac arteries, as suggested by Biers, was performed for enlarged prostate by Meyer in 1894. "The operative technique was, however, unfavorable, being productive of recurrent hæmorrhage from the left iliac, necessitating re-ligature and amputation of the foot for gangrene."

There are, however, a large number of old and debilitated patients who cannot with any prospect of success submit to either prostatectomy or castration, and to whom the idea of carrying a urinal on their person is hardly less dreadful than death. As in the operation of ovariotomy, so in that of castration, melancholia will follow in a small percentage of cases, and prostatectomy is sometimes attended with alarming hæmorrhage; occasionally the operation is rendered futile by various forms of sub urethral prostatic growths—a complication which demands special operative measures for its relief. Incision of the *vas deferens* is as yet

on its trial, and until we get more information on the results obtained by the operation, we cannot form an opinion of its value.

The sufferers are happily not without the means of relief; for them there is an ideal operation, easy of performance, and practically free from risk—I refer to the formation of an anterior artificial urethra as was devised, and the operation performed by our distinguished ex-President, Dr. Hunter McGuire, which operation, in May last, I performed on a poor house-painter named Reilly, suffering from prostatic retention of urine, who came under my care in the Whitworth Hospital, Drumcondra.

For years he had been suffering from dysuria, and from time to time he had complete retention, which a local medical practitioner relieved by passing a catheter. Latterly, the passing of the instrument became very difficult, and finally, his attendant having failed to pass the catheter, the man came under my care. He was in intense agony, and through the thin abdominal walls the outline of the bladder—which reached as high as the umbilicus—could be easily made out. He was aspirated, and sixty-five ounces of urine drawn off.

For the following four days he was aspirated night and morning, and put on an acid quinine mixture, and saccharine was substituted for sugar in his food. Thoroughly weary of the life he was leading, he asked me to do something to relieve him from these attacks of retention. I told him that it was possible to get free of them, and he consented to an operation. Having thoroughly cleansed the part, and following Dr. McGuire's directions, as published in the *Transactions of the American Surgical Association*, I began my incision three inches above the upper border of the symphysis pubis, cutting vertically down to the bone, and laying bare the linea alba. My next incision, passing through the linea alba, was three-quarters of an inch shorter than the cutaneous one, the shortening being made at the expense of the upper end of the wound. Still keeping in the median line, I separated the tissues with the handle of the scalpel until I came on the transversalis fascia, which I divided. The bladder now bulged into the wound, and was secured by two long-handled tenacula, and slit for almost an inch between them. My finger followed the knife very quickly, for there was no bag in the rectum, and the walls

of the bladder were as thin as tissue paper, the tenacula coming through them when the slightest traction was made. About twenty ounces of urine flowed out. A soft gum catheter was now introduced, and I sewed up the cutaneous tissues with three deep and three superficial catgut ligatures, leaving an opening at the highest point of the wound of half an inch in length. The following day I removed the catheter and placed a large pad of absorbent cotton over the wound.

For nearly a month the urine dribbled through the superior opening of the wound, and the patient began to think that his last state was worse than his first. Gradually, however, he began to gain control over his bladder, and now (November 1st), almost six months after operation, he is pursuing his work daily, finding no inconvenience from the wound, which he keeps stopped with a little plug of cotton wadding. He is able to retain his urine for four or five hours during the day, and has not once to rise during the night. He expels the stream of urine some feet from his body, and is free from any urinous smell. Since the operation he has gained in flesh, eats well, sleeps soundly, and is very happy in the consciousness that the agony of retention cannot occur to him again.

From the digital examination of the bladder, I found the prostate to project almost to the posterior wall of the viscus in a saucer-like body, concave on its superior surface from side to side and from before backwards; its under-surface was convex, and fitted like a little lid over a vesical fossa. On raising up the enlarged prostate, I found it could be readily applied to the anterior wall of the bladder, and closed the urethral orifice as a cap.

Without one unpleasant symptom, the case made a good recovery, and he left the hospital six weeks after admission.

The points of interest in the case were the peculiar shape of the prostatic hypertrophy, its flexibility—almost rubber-like—and the extreme thinness of the walls of the viscus.

The operation is, I think, the first one of its kind done in the Three Kingdoms; and certainly for facility, ease, and effectiveness, it is superior to any known to me. No blood is lost, all the incisions being through extravascular tissues; the risk to the peritoneum is more imaginary than real, for if the membrane is met it can readily be avoided; it is quickly performed, and is unaccompaned by shock.

As this was the first case of McGuire's operation done in this country, and as it has been highly approved of by many distinguished surgeons who either were present or examined the patient since the operation, I thought it would not prove unacceptable to the Southern Surgical and Gynæcological Association. To me it appears more generally useful than any other urinary vesical operation I know of, and it has the enormous advantage of being capable of performance on the very old, very feeble, and the very nervous—a great advance in surgery, worthy of the home of McDowell and Marion Sims.

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Art. VIII.—Diagnosis and Medical Treatment of Intestinal Obstruction.*

By R. F. WILLIAMS, M. D., Richmond, Va.

General Symptoms.—In the *chronic forms of intestinal obstruction* the first symptom noticed is some disturbance of defecation. Usually this is constipation which has gradually increased, and which is often accompanied by tenesmus and pain. There may be diarrhœa, with bloody and mucous stools, or constipation alternating with diarrhœa, produced by irritation of old fæcal matter or passive hyperæmia. If there be a change of form in the fæces, it will usually be flat and ribbon-like; the appearance of pea-like lumps in the stool, like the fæces of a goat, is not diagnostic of obstruction, as the same occurs in other forms of constipation. There is a gradually increasing meteorism. Peristaltic movements of the gut may be seen through the abdominal wall, as this is thin from the general emaciation of the patient, as the gut wall is hypertrophied. Some authors have recommended this as a more or less efficient means of diagnosing the site of the obstruc-

*Read before the Richmond Academy of Medicine and Surgery, October 22d, 1895.

tion; but, on account of the mobility of the gut and its frequent change of position, it is of doubtful value for this purpose.

Aortic pulsations may sometimes be felt transmitted through the distended gut.

Vomiting is a frequent symptom as the trouble advances, but it is rarely fæcal.

Pain, colicky in character, is a usual symptom; although cases are recorded as proceeding without pain until complete occlusion. More or less anæmia and emaciation are present, and may be severe in such cases caused by carcinoma and tuberculosis. The chronic form may follow on the subsidence of an acute attack; but it is more common for an acute attack to supervene in the course of the chronic trouble.

The symptoms of acute intestinal obstruction are sudden pain in the abdomen, at first colicky, but becoming continuous, usually with exacerbations. The abdomen is tender and distended to a great or moderate degree, according to the site of the obstruction; but there is no flatulence, and constipation is absolute except in intussusception, and, in some instances, when fæcal matter below the seat of obstruction may be avoided.

Vomiting is a constant symptom, sometimes alternating with eructations. In the beginning of the trouble the contents of the stomach are first vomited, then bile, and later, stercoraceous matter. This is not produced by a reverse peristalsis bringing the contents of the large gut into the stomach, but by putrid decomposition in the small gut, as is shown by the fact that in obstruction of the small gut stercoraceous vomiting occurs, and is a more constant symptom in this form than the obstruction of the large gut. The vomiting is caused by stretching of the peritoneum and by irritation of the stomach produced in the presence of abnormal matter, which has entered when the pylorus is relaxed by pressure from within the gut.

There are rapidly developing symptoms of collapse. The pulse rapidly increases in frequency and becomes weak;

the extremities cool and cyanotic; the eyes and cheeks sunken; the voice weak. The temperature is variable, though it usually falls. The tongue is dry, and there is great thirst. The urine is scant and high colored, and may even be suppressed when the obstruction is high, due, probably, to the constant vomiting and consequent small amount of fluid absorbed. Respiration may be interfered with by the distension and pain. Peristaltic movements may be seen through the abdominal walls; but this is not a constant symptom on account of paresis of the gut wall, thick abdominal walls, etc.

The *diagnosis* of intestinal obstruction is always difficult, and cannot be dogmatically given, as it must be made by differences in degree of symptoms for the most part; and, perhaps, more than in any other condition is the judgment of the physician called in.

Diagnosis as to the Site of the Obstruction.—Abdominal inspection and palpation give indications of the location by the detection of well-defined masses or active peristalsis in the distended coils. Rectal and vaginal examinations should always be made, as by these means the condition of the pelvic organs can be discovered, and often, if the obstruction be low, it can be felt; while, if high, the fingers will find the empty coils depending into the pelvis. Rectal examination with the whole hand is not to be recommended. Obstruction of the small gut gives rise to greater anuria, and there is, usually, an increased amount of indican in the urine due to decomposition of albuminous matter, forming indol; while if the obstruction be in the large intestine, indican is not increased, as the albuminous substances are not present there in such quantity.

In obstruction of the small gut there is greater vomiting, which becomes stercoraceous early, and less tympanites, the distension being in the upper part of the abdomen if the duodenum or jejunum is the site of the obstruction, and in the central part if the ileum be involved. Prof. Monti, of Vienna, gives as a diagnostic point pain beginning about the umbilicus and radiating toward the stom-

ach when the duodenum or jejunum is the site; while if the obstruction be lower down, pain begins in the cœcal region. He also considers the development of tympanites of diagnostic value if the case be seen early enough.

In obstruction of the large gut there is greater tympanites, and vomiting comes on more slowly. Tenesmus and the passage of mucus and blood are common. For deciding the point of obstruction in the large intestine rectal examination will give evidence of the involvement of the rectum, and often of the sigmoid flexure. Inflation with a bellows, or with bicarbonate of sodium and tartaric acid is a useful means. Knowing the capacity of the larger gut to be about six quarts, distension of the gut by the injection of known quantities of water will frequently aid in the diagnosis. For this purpose only a soft rubber tube should be used on account of the danger by a hard one. The patient should be anæsthetized and have his buttocks raised. In both of these last mentioned means care must be used, as cases are on record where such methods have caused rupture. To further aid the diagnosis by this method, auscultation along the course of the large gut should be made, as the gurgling sound will give further evidence.

Of the Nature of the Obstruction.—Hernia should be excluded by a thorough examination of all possible points for its occurrence.

Strangulation is rare in the young. The history usually gives evidence of previous abdominal operations, peritonitis or colic. The attack comes on suddenly, fæcal vomiting occurs early; local tenderness is usually absent at first, but comes on later; constipation is absolute; fever may or may not be present. No tumor can be felt, as a rule.

Intussusception is commonly met with in children, occurring even in young infants. The onset is sudden. Pain, at first, is usually paroxysmal, and tenderness is often absent, pressure often giving relief. Fæcal vomiting is not a common symptom. Constipation is not the rule, but if the

invagination occur in the small gut it may exist, when there will usually be more hæmorrhage. Usually there are bloody stools, the amount of blood often reaching a severe degree of hæmorrhage. There may even be diarrhœa. Tenesmus is a frequent symptom, especially when the large gut is involved. If the affection be in the large gut, by rectal examination one may often touch the invaginated portion, feeling like a softened patulous cervix. The presence of a sausage-shaped tumor can usually be found by abdominal palpation.

Volvulus occurs oftenest in men of middle and advanced life. The diagnosis is always difficult, and often laparotomy is the only means of making it. The usual sites are the lower part of the ileum, and most frequently the sigmoid flexure. The onset is sudden. Pain is at first intermittent, becoming constant later. Tympanites is marked, beginning frequently as a circumscribed area in the umbilical and epigastric regions, and tending to the left side. Constipation is absolute, and peritonitis appears early. The passage of a soft rubber tube and injection of water is especially useful for diagnosis in this form of obstruction, though some object to it, saying it increases the trouble.

Fæcal impaction occurs most frequently in women and lunatics. There is always a history of previous constipation, which, as a rule, gradually increases till the point of occlusion is reached; but the occlusion may be sudden. The commonest sites are the cœcum and rectum. Constipation is usually absolute, but when the impaction occurs in the rectum the mass may be channelled, allowing the passage of fæces from above, and the patient for a long time be ignorant of any trouble. There is no blood in such actions. Eructation is a common, and often distressing accompaniment of fæcal impaction, but vomiting does not occur until late, and is very rarely stercoraceous. Pain and tympanites are also late symptoms. A tumor, which pits on pressure, can usually be felt by abdominal palpation, and if the rectum be the site, the trouble can be diagnosed by digital examination.

In impaction by gall-stones, there is usually a history of previous colics, and fæcal vomiting and pain occur early. Jaundice is not often met with, and a tumor is rarely found. Constriction is diagnozed by a history of previous dysentery, syphilis, tuberculosis, typhoid, etc., in addition to the general symptoms of the chronic form of the trouble.

Obstruction due to paralysis of the gut wall from traumatism or other cause, is usually accompanied by paralysis of other parts, and is diagnosed by the history of such paralysis.

The *course* of the affection is variable—in acute cases ending in a few hours, or extending over a week or two. About six weeks is the usual period. In chronic cases, the duration depends upon the cause.

The *prognosis* is always grave, most cases ending fatally. In some cases, there is a possibility of spontaneous recovery, as when in intussusception, the gangrenous portion is passed. One reason, probably, of the great fatality, is the long delayed surgical treatment.

Treatment for the relief of intestinal obstruction has been attempted in many ways—bullets in the sixteenth century, shot, more recently; metalic mercury, purgatives, opiates, enemata, electricity, massage and laparotomy. As the result of experience, it is now conceded that in most cases it is a waste of time to attempt alleviation by means of medical treatment, and that as soon as diagnosis has been made, operative treatment should begin. Purgatives should not be used, but, in the early stages, the administration of opium greatly relieves pain by checking peristalsis. It also lessens the vomiting, but it must be borne in mind that it obscures the symptoms. Enemata should be tried early, except, perhaps, in volvulus, although in most cases little good may be expected. When these have been used, and the water returns unchanged, the vomiting continuing, operation is indicated. Washing out the stomach is useful in relieving nausea and lessening the tension of the bowel. In some cases, it has even proved curative.

For the relief of tympanites, puncture of the gut through

the abdominal wall with a trocar and canula has been advised, but it is unsatisfactory, as, on account of the mobility of the gut, the portion below the obstruction may be punctured and there may result a septic peritonitis from failure of the gut walls to close perfectly. For this purpose, hot turpentine stupes may be tried, but are insufficient.

Mr. Jonathan Hutchinson, in the *Report of the British Medical Association's* meeting in 1893, advocates taxis for acute intestinal obstruction, claiming that in most cases his results were excellent, whereas he knew of only one case cured by laparotomy His method is, having anæsthetized the patient, to invert, and then to forcibly push and shake the intestines from side to side, large enemata being given while the patient is inverted. Then the patient is to be thoroughly shaken by four strong men, first in the inverted position, then in the erect. In some cases he saw no immediate results, but in an hour or two the bowels moved, and all went well.

In the acute affections, the food should not be administered by mouth, but only as nutrient enemata, otherwise it is immediately vomited and adds to the patient's discomfort.

Medical treatment is often efficacious and sufficent in two forms—intussusception and fæcal impaction. Opium should be given in both cases, as it relieves the pain and vomiting, and in case of intussusception, prevents further invagination. Enemata should be freely used. In intussusception, the patient should be put in the knee-chest position and a soft rubber tube inserted, water being slowly injected, the nurse pressing the buttocks together to prevent its escape. In fæcal impaction, continuous enemata for half an hour at a time should be employed. These may be of soap water, oil, or turpentine and oil in the proportion of one ounce to the pint. Inflation with a bellows may be employed in cases of intussusception instead of the injection of water, but care must be observed.

The stomach should be washed in both cases, as it relieves vomiting and tension, and prevents the absorption of noxious matter. It has also proved curative.

For cases caused by paralysis, electricity and massage may be of benefit.

If relief is not speedily accomplished by measures indicated, operation should be performed.

Art. IX.—Case of Ruptured Tubal Pregnancy at Seven Weeks; Laparotomy and Recovery—Remarks.

By J. WESLEY BOVEE, M. D., Washington, D. C.

Mrs. C., 37 years old, white, married, was seen in consultation with Dr. Wade H. Atkinson, of this city, September 26th, 1895. He had diagnosed ruptured tubal pregnancy, and wished me to operate.

Her history was that she had had four children at considerable intervals, the oldest being grown and the youngest having been born six months ago, dying of pneumonia when six weeks old. She had also had one abortion several years ago. Following the last labor she had had a good deal of pelvic pain that has continued to the present. The last regular menstrual epoch occurred July 22, 1895. Three weeks later a very slight flow of blood occurred, and was repeated a few times before September 11th. During this time she had but one symptom that caused her to suspect pregnancy, as it had caused great annoyance early in each previous pregnancy. It was an intense and persisting itching of the vulva and vagina. A kind neighbor prevented thoughts of pregnancy escaping the unfortunate woman by informing her that the small, irregular flows of blood were positively indicative of that condition. On the last date above noted bearing-down pains and other sensations of approaching menstruation were present. Thinking the flow was about to come on regularly, she took from a bottle of ergot, that had been in the house since her last confinement, fifteen drops every three hours for a whole day. The following day severe pains began to be later, accompanied by a flow of blood, and on the 13th a considerable membrane was passed from the uterus.

Dr. Atkinson saw her at that time and again yesterday. At his first visit he treated the case as one of abortion. She was very nervous and extremely sensitive, so that he could not find any mass on either side of the uterus upon examination.

She did not do well, however, and yesterday upon being again called he found a large mass to the left of the uterus and a smaller one to the right, besides a bogginess behind the uterus. This organ was pushed well forward, and was slightly enlarged. He made the diagnosis of ruptured tubal pregnancy, and I saw her the following day with him.

My diagnosis was not as positive as that of Dr. Atkinson, for her temperature was up, and I thought a fair history of sepsis following abortion was present.

At any rate, we agreed that an operation was imperative, and advised her prompt removal to a hospital. She was taken to Columbia Hospital that evening, and the following morning, September 27th, I made an abdominal section. As soon as the peritoneum was incised a large amount of dark semi-fluid blood escaped. A considerable amount of thick material of the same character was scooped out of the pelvis and abdomen. The omentum had attempted to limit it by forming adhesions. The mass to the left was found to be blood clots, and a ruptured tubal pregnancy with membranes protruding through the large opening in the wall of the Fallopian tube. The whole appendage was removed, and as the right tube was fully an inch in diameter, contained fluid, and was, as well as the ovary, badly adhered, the right appendage was also removed. The fluid in the tube was found to be about a half ounce of sanguino-purulent fluid.

During the operation the patient was very weak and nearly pulseless; breathing ceased, and artificial respiration by an assistant was practiced. Normal salt solution to the extent of 1500 c. c. was introduced by hypodermoclysis during the operation. The abdominal cavity was flushed out by the same solution at a higher temperature, and a glass drainage tube was employed for two days. 2000 c. c. normal salt solution was also put under the skin just after her transfer from the operating room. All the contents of the abdomen that had been removed were carefully examined and no fœtus was found.

The patient reacted nicely, made a speedy recovery, and left the hospital October 22d, 1895.

The points of particular note in this report are the use of ergot at about the time of rupture; the occurrence of two cases of ruptured tubal pregnancy in the general practice of one physician within a period of six months, both recovering after operation, and the presence of pus in the non-pregnant tube as a very important factor in treatment.

Many physicians, myself included, occasionally prescribe ergot in some form in cases of child-birth, in anticipation of hæmorrhage and relaxed uteri. The directions usually are "For physician's use." All, or a portion, of the preparation is not used at the time and is unintentionally left at the house. The opportunity for the improper use of it is thus afforded, and is exemplified in this case where it was used six months afterward. I believe the ergot was directly responsible in this case for the rupture, which, of course, would have occurred later, if no drug had been taken. However, the lesson it teaches is a striking one. I believe many women save a small bottle of ergot, left after confinement, to be used as an abortifacient, should they again become pregnant. While abortions will be produced intentionally, despite our efforts, nevertheless it is our duty to prevent such work, so far as we can, and if we leave ergot with such women we are not doing our duty.

The diagnosis of this case by Dr. Atkinson occurring so soon after his first case, upon which I successfully operated and reported in the *American Journal of Obstetrics*, 1895, Vol. XXXII, No. 3, shows how strongly impressed he was by that case. It bears evidence, too, of the frequency of this abnormal condition and the cases that probably are not diagnosed by many other physicians. Both cases tend to prove the value of surgical aid in such cases, as I am almost certain neither could have recovered without operation. The infection in the first case, and the presence of a fluid in the right tube that was partly pus, and the strong adhesions of the appenduge, added to the severity of the conditions and of the measures of relief.

Incidentally, I wish to mention that the pregnancy in both cases was in the left Fallopian tube, and that the use of normal salt solution materially assisted in the recovery of both cases. In this case 3500 c. c. was introduced under the skin.

1404 *H Street.*

Art. X.—Prolapsus Recti.*

By LLEWELLYN ELIOT, M. D., Washington, D. C.

Although prolapse of the rectum is, comparatively speaking, a rare affection, and when limited in extent is curable, it is, when it has assumed greater proportions, a source of annoyance and misery to the patient, while it is one of vexation and disappointment to the medical attendant.

The rectum measures in length about eight inches, and when empty not more than one-and a-half to two inches in width, but it may be so stretched as to admit of the introduction of the whole hand. Such extreme stretching may result in rupture of the sphincters, but in any event in their temporary loss of tonicity. There are four coats, the peritoneal, the muscular, the cellular and the mucous; all writers do not consider the cellular as a coat. The peritoneal coat extends to the last inch-and-a-half, the others to the anus.

At every act of defecation there is more or less natural prolapse of the anus with the lower portion of the mucous membrane of the rectum, but there is an immediate return; when, however, the active or the predisposing causes are present, this natural and harmless prolapse becomes pathologic, and requires aid either in its reposition or in its retention.

The best division of the subject is that of Mathews, who writes that all prolapse is either *simple* prolapse or *complicated* prolapse, the complicated cases of prolapse including all the cases of invagination and hernial protrusions.

Kelsey divides prolapse into four divisions: First, prolapse of the mucous membrane alone; second, prolapse of all the coats of the rectum, including, when the disease is of sufficient extent, the peritoneum; third, prolapse of the upper part of the rectum into the lower or invagination, and fourth, invagination in the continuity of the intestine. In this last variety the invagination may be so high that it

*Read at a meeting of the Medical and Surgical Society of the District of Columbia, November 11th, 1895.

can neither be seen nor felt, and there will, of course, not be any protrusion.

The mucous and the muscular coats being connected by a lax cellular tissue, allows prolapse of the mucous membrane of the rectum; but prolonged efforts at straining will occasion prolapse of the muscular and peritoneal coats with the intestine or the ovary; this prolapsed tumor may reach three or four inches in length, and Agnew saw a case where the entire rectum and sigmoid flexure prolapsed, forming a tumor twelve inches long, following shock and general muscular debility, in a woman ninety-two years old, who had sustained a fracture of the thigh; he also refers to the case of a soldier who could prolapse and return the bowel at will.

As already stated, prolonged and vigorous efforts at stool will produce this condition. Other causes are diarrhœa, chronic dysentery, polypi, hemorrhoids, tumors of the sacrum, repeated pregnancies, chronic alcoholism, attacks of severe coughing, crying, constipation, urethral stricture, enlarged prostate, vesical calculus, ascaridal irritation, general muscular debility, phymosis, overfeeding, spinal paralysis, sodomy, and the practice of allowing children to remain for a long time sitting upon a chamber or the closet. As especial causes in children are the straightness of the coccyx and the extreme looseness of the attachment of the sub-mucous connective tissue to the walls of the rectum.

In simple prolapse the mucous membrane *only* is drawn down, but in cases where the muscular coat is included in the prolapse the peritoneal cul-de-sac is usually drawn down, and portions of the intestine are liable to fall into the protrusion. For the same reason an ovary may also prolapse. More cases occur in children than in adults, and more cases among women than among men.

In simple prolapse the mucous membrane remains smooth, soft and pink in color, with the anal opening still in the centre, but later becomes painful to the touch, darker in color, and the secretion changes to pus, while the surface becomes glazed, its transverse folds disappear, it be-

comes insensitive, the sphincters from continuous dilatation loose their elasticity, and are no longer able to offer resistance either to reduction or reproduction of the prolapse. Should this condition continue, complete prolapse occurs, that is of the mucous and other coats. The transverse folds are still to be seen, the color is not as dark as in the simpler forms of prolapse, since the sphincters no longer constrict. This exposure may lead to ulceration, and finally to sloughing of the bowel if long continued.

Ordinarily there should be no difficulty in making a diagnosis. Hemorrhoids are separated from the rectum by grooves, and are more or less independent. Polypi are smooth, pediculated tumors. Epithelioma has an indurated, cauliflower surface, and an ichorous offensive discharge. When intussusception exists in children, with the intussusception protruding from the rectum, the diagnosis is difficult, but care and judgment will clear away any doubts.

The prognosis in these cases will depend upon the variety of the case, the age of the patient, the length of time the prolapse has been protruding, and upon the treatment. Where a reducible case presents itself we should inquire the causes of the laxity of the parts, and as far as possible eradicate them; when, however, an irreducible prolapse presents itself, we must resort to palliative measures or a radical treatment.

Treatment.—At first the prolapse, after being well oiled and replaced, will not reappear, but should further treatment be required, the injection of cold water, of decoctions of oak bark, tincture of chloride of iron (gtt. xx–xxx–℥iv water), or the application of an ointment composed of equal parts of the extracts of belladonna and opium would be recommended. Should these measures fail to effect a cure, the hypodermic injection of a 10 per cent. solution of carbolic acid, as recommended by Kelsey, or a similar course with ergotine, as recommended by Vidal, who claims to have cured three cases by this means, although Mathews has failed to obtain successful results with it. Strychnine might be used by hypodermic. Electricity should be at-

tended with good results. We have now reached the end of our medical measures, and must resort to either cauterization or the knife.

Of the cauterizing agents nitrate of silver, acid nitrate of mercury, nitric acid, Pauquelin's thermo-cautere, or the actual cautery are at our command, and of these nitric acid and thermo-cautere are most frequently used. Nitric acid is applicable to all cases, and in children should be used to the exclusion of other methods of cauterization; in its application care must be taken not to burn through the mucous into the peritoneal coat. The bowel must be well oiled and returned. Pain and tenesmus soon pass away, and in a few days the cure is effected. While much has been claimed for nitric acid cauterization, and so many surgeons employ it, so good an authority as Mathews is opposed to it. Many times the application of nitric acid will be followed by so much ulceration that the case, instead of being benefitted by such cauterization, is left in a miserable condition; but I fancy this is more the fault of the operator than of the acid. The thermo-cautery is applied under an anæsthetic. Van Buren recommended from four to six stripes be made longitudinally with the Paquelin knife-blade on the protruded bowel, the prolapse is then returned, the sphincter divided in two places and the wounds dressed with oiled wool. A longitudinal and a circumferential contraction resulted. The stripes are deeper at the base than at the apex, on account of the location of the peritoneum; the patient kept in bed for a month, or until the wounds are healed; all motions passed in the recumbent position.

Bryant says it may be necessary to remove three or four folds of mucous membrane with the clamp and the cautery as for piles, and states that few operations in surgery are more successful than this, but that it is probably never required in the case of children.

Copeland drew down portions of the mucous membrane with forceps and applied ligatures tightly, cutting them short and returning the bowel.

Ricketts passes sub-mucous ligatures. Notwithstanding the employment of the measures already named, cases will occur which refuse to yield satisfactorily, and then some radical mode of treatment must be adopted.

All operative measures have for their object the strengthening of the sphincter and the reduction in size of the tumor, such being the case, the only plan of treatment remaining is excision.

Dupuytren snipped off flaps of skin surrounding the orifice, and later did a rectoperineorrhaphy.

Duret removed a triangular flap from the posterior wall of the rectum, including a portion of the sphincter.

Schwartz freshened a large surface upon the anterior surface of the anus and rectum.

Verneuil performed a "rectopexie." He made an incision one-and-a-half inches long along the sides of the anus at the junction of the skin and mucous membrane; these incisions were met by two other incisions, which meet at the coccyx, the flap thus made to be dissected up from behind, and the posterior fourth of the sphincter included. The second step in the operation is to insert four silk-worm gut sutures with a curved needle transversely into the posterior wall of the rectum, carefully avoiding the mucous membrane; these sutures are carried towards the sacrum, the rectum is thus much contracted. The sutures now pass through the skin about the sacro-coccygeal articulation; are drawn tightly and tied. The third step is the excision of the cutaneous flap, which had been dissected back as the first step of the operation and the suturing of the edges. Although Verneuil's operation has many advantages, it does not affect the whole bowel, but only a restricted portion.

Jeannel performs a "colpexie;" in other words, he establishes an artificial anus in the left iliac region and sutures the colon to the opening. At a later date, if desirable, a "rectopexie" could be performed and the artificial anus closed. He claims that by putting the rectum at rest, the

prolapse will be cured spontaneously and the weakened sphincter resume its tone.

Roberts excises a V-shaped piece of the sphincter and of the entire posterior wall of the rectum, drawing the divided walls together and then securing them, as well as the sphincter muscles. This is practically the same operation as described by Verneuil as a "rectopexie."

Mikulicz shortens the rectum by removing a transverse section, completely encircling the rectum and suturing the edges of the wound. In one case he removed, under continuous irrigation, two-and-a-half feet of the prolapsed colon. The serosa of the intussuscipiens and the serosa of the intussusceptum were stitched together with a circle of fine sutures. Just beyond the sutures the anterior part of the intussusceptum is also cut through, and the ends of the gut are sutured together, to the entire extent of the incision, by silk threads, including all the coats.

Treves excises the protruded mucous membrane and attaches the cut surface to the skin, but does not divide the sphincter. He also does the following operation: After baring the protruded bowel of mucous membrane, the cone was cut across at the level of the anus. The anterior wall was first divided, the peritoneum opened, and the opening plugged with a sponge. The rest of the prolapse was then rapidly severed with scissors. The peritoneal wound was first closed with fine cat-gut, and the divided end of the bowel was next attached to the margin of the anus. The sutures included the whole thickness of the wall of the rectum, and as much as possible of the subcutaneous tissue about the anus. The portion removed in one case measured five inches long, and upon its surface were nearly three inches of peritoneum.

Wyeth considers the excision of a V-shaped piece of the mucous membrane and uniting by sutures bloody and troublesome, and not comparable to the operation with the Paquelin cautery. Where incision becomes necessary, he insists that the integrity of the sphincter should not be im-

paired, and that the mass should be cut away outside of the sphincter. He prefers to use a delicate cautery-knife, and that the line should be circular.

Agnew thought excising portions of the mucous membrane, either with or without Smith's clamp, and then suturing the edges, the most satisfactory operation; and if the cautery be applied, the actual cautery would be better than the Paquelin.

Jacobson removes eliptical pieces of the mucous membrane, tieing bleeding vessels with chromic gut and uniting the edges of the wound with horse-hair or fishing-gut sutures, a horse-hair drain being first inserted.

Kleberg operates under carbolic spray; the prolapse is first made as small as possible, and then encircled by an elastic ligature. An incision about two inches long is made longitudinally, the protruding intestine is pushed back, and when certain no peritoneal coating is in the opening, he thrusts a trocar through the prolapsed gut, and then draws through the canula two elastic drainage-tubes; these tubes are tied tightly, each one investing half of the prolapse. To prevent slipping, the knots are firmly secured with silk. The primary encircling tube is removed, and the prolapsed gut is cut away in front of the ligatures. The parts left were then kneaded, and the stump soaked with a solution of chloride of zinc and then dried; a cotton batting dressing then applied. Recovery ensued in fourteen days.

As a dressing, iodoform is preferred by the majority of operators.

With the third and fourth varieties we shall not deal, as the successful treatment of them usually requires abdominal section.

Now, as to the *anæsthetic in operations on the rectum.* For quite a while I have used *cocaine* in such work, and have not as yet had occasion to regret it; but I always fear its over-action here, since we cannot control its absorption as in the case of small amputations or other surface surgery, and in the future will use chloroform whenever an anæsthetic in a rectal operation is necessary.

I have seen three cases of the prolapse of the rectum in adults—one simple, two complicated—and will briefly recite them:

CASE I.—J., female, white, aged 35 years, an opium habitué. Seen in August, 1879. Mucous membrane protruded to the size of an ordinary orange. Oiling the prolapse, it was reduced without trouble. The further treatment was with injection of decoction of oak-bark. She recovered entirely.

CASE II.—W——, male, white, aged 63 years. Gives a history of alcoholism, hæmorrhoids and dyspepsia. Seen in 1894. Prolapse complete, two inches long, sphincter without tone, allowing reduction without trouble. Refused to have injection of carbolic acid or ergotine, to submit to cauterization or to operation. There has been no improvement, although he is still using injections of tannic acid water.

CASE III.—Thomas B, white, aged 46 years, machinist. Gives a history of dissipation and alcoholism. Had for some time suffered from constipation; noticed a protrusion which he thought was hæmorrhoids; this increased in size until May, 1892, when it began to cause annoyance by its size and the frequency of its presence. He finally entered hospital, and in January, 1894, he was cauterized with Paquelin's knife. This cauterization resulted in a cure for about two months, when the bowel again began to protrude, and on September 16, 1894, he again entered Providence Hospital. After a few days' preparation, I operated. My first intention was to excise the entire mass, but upon a consideration of the man's previous life and a closer examination, concluded to operate differently. At the time of the operation the prolapse hung down like a big ball, measuring six inches in cicumference and nine inches around its length; walking was much impeded; he was totally incapacitated from any work and in a miserable, anæmic condition.

On September 23d chloroform was administered, a piece of elastic tubing was tightly drawn around the prolapse as close to the anus as possible, so as to completely control hæmorrhage. Upon the anterior surface of the prolapse a section of the mucous membrane, $1\frac{1}{2} \times 1\frac{1}{2}$ inches, diamond-shaped, was removed and the edges of the wound drawn together with gut sutures; upon the right side a square, $1\frac{1}{2} \times 1\frac{1}{2}$ inches, was removed, and the edges of the wound sutured; upon the posterior surface of a triangle, $1 \times 1 \times 1$

inch, was removed, and the edges of the wound sutured as closely as possible. The prolapse, now very much smaller, returned without assistance. The prolapse being reduced, the next step was to prevent its again protruding, so to effect this, I removed a V-shaped section of the sphincter on the posterior border, and sutured the edges with silk; the anterior border was also divided, a similar section removed and silk sutures passed. The whole was irrigated with carbolized water and an iodoform dressing applied, held in place with a T bandage, opium given and the patient put to bed. For four days his urine was drawn with the catheter. On the third day some of the stitches were taken out; on the fifth day the rest of them. His bowels were moved on the ninth day with magnesia sulphate, and he was discharged cured October 8th, two weeks after the operation. The temperature ran up to $100\frac{4}{5}°$ F, when the stitches were taken out, from nervous excitement, and to 101° F when the bowels were moved.

This man remained cured until the past July, when he told me his trouble was returning, but what else could we expect when he has led a life of continued dissipation and exposure since the discharge from hospital.

The operation I performed was different from all of which I had read, but I suppose others have done just as I did.*

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* In the preparation of this paper, I have drawn from the following works: Roberts, *Modern Surgery;* Agnew's *Surgery; International Encyclopædia of Surgery;* Pozzi, *Medical and Surgical Gynæcology;* Jones, *Diseases of Women and Uterine Therapeutics*; Holmes' *Surgery;* Bryant's *Surgery*; Keating, *Cyclopædia of Diseases of Children;* Smith, *Diseases of Children; American Text-Book of Diseases of Children;* Mathews' *Diseases of the Rectum, Anus and Sigmoid Flexure;* Kelsey, *Diseases of the Rectum and Anus;* Jacobson, *Surgical Operations;* Wyeth, *Text-Book of Surgery.*

Dr. I. S. Stone, of Washington, D. C.,

We are glad to learn, has thoroughly recovered from the septic wound received on his hand during an operation some weeks ago, and is again at his usual professional work.

Art. XI.—Report of Another Case of Puerperal Eclampsia Successfully Treated with Large Doses of Tincture Veratrum Viride—with Remarks.

By JEFFERSON SUTTLE DAVIS, M. D, of Monteville, Ala.,
Junior Counselor Medical Association State of Alabama.

On September 14th, I was engaged by Mr. J. P. to attend his wife during her fifth confinement, which was then expected at any moment. As is my custom, I visited her on the following day to direct any necessary preliminary treatment. Found her feet and legs very much swollen, with a history of several recent attacks of severe headache. Tongue was heavily coated, and she was badly constipated. Heat and acid test showed the urine to be heavily loaded with albumen, and the daily quantity excreted was noticeably diminished, and highly colored. I directed chloroform gtt. xx in water every four hours. Left calomel gr. x to be taken at bedtime, and directed fluid extract cascara sagrada, gtt. x three times daily, for the relief of the constipation.

Was called again next day and found her suffering intensely with excruciating pains in head and eyes. Good response from the calomel was reported. Temperature, 99⅜°; pulse, 81, and full. Directed antikamnia, gr. x; tincture gelsemium, gtt. xx, and papine ʒj, two doses of which—three hours apart—gave entire relief. Ordered the chloroform continued.

Was called at 2 o'clock next morning, the messenger stating that she was having hard convulsions. She had had three before I arrived, and was just going into the fourth when I reached her. I at once administered hypodermically Norwood's tincture veratrum viride min. xxv. In a few minutes, there occurred a profuse perspiration, and the hard bounding pulse, which was considerably above 100 when I arrived, was soon soft and under 60. I ascertained by vaginal examination that there were no signs of labor—the os being firmly closed and high up. Her pulse continued to fall until it was 52, and forty minutes after administering the veratrum she was so much nauseated, that I gave ¼ gr. morph. sulph. and $\frac{1}{150}$ gr. atropia under the skin. This relieved the nausea and vomiting at once, and produced refreshing slumber. She slept one hour and thirty-five minutes, during which time her circulation remained under 60. When she awoke, however, she was apparently alarmed and a little "flighty"—talking incoherently, and

the pulse was accelerated until it was finally again in the neighborhood of 100 I also noticed an occasional "jerking" in the muscles at this time, and fearing another convulsion, I gave tincture veratrum, gtt. xv, under the skin. The circulation was 60 again in ten or fifteen minutes, and she was soon sleeping.

As there were still no symptoms of labor, three hours later I thought it would probably be necessary to empty the uterus; so I requested that Dr. J. H. Gunn, of Colera, Ala., be summoned in consultation. He arrived several hours after I had given the last dose of veratrum, and as there had been no further symptoms of convulsions, and as she was at that time quite rational, and her condition better than at any time since the last convulsion, we naturally decided to wait awhile on nature.

Dr. Gunn suggested pot. bitartras ½ teaspoonful in glass of water every three hours for the albuminuria, and we agreed to continue the veratrum as a prophylactic, when the pulse went above 60. I agreed to summon the doctor should she not continue to improve.

During the next twelve hours, it was necessary to administer the veratrum—which was given internally in ten-drop doses—several times, as there was a tendency for the pulse to run high when not under its influence. After this time, however, there was a marked improvement in the renal secretion—the quantity of urine passed being almost natural, while the per cent. of albumen was decidedly lower. From this time on, it was only necessary to give the veratrum at long intervals, and two days and a half from the time of the first convulsion she commenced to have labor pains, and in six hours was delivered of a twelve-pound girl. Her recovery was entirely uneventful, and mother and baby are now in perfect health.

Remarks.—In this case we see illustrated that action of veratrum which may be termed *prophylactic*, by which the convulsions may be held in abeyance while treating the albuminuria producing them in those cases in which they occur before the beginning of labor.

In a paper read before the Alabama Medical Association in April last (and published in the June number of the Alabama *Medical and Surgical Age*), I refer to this class of cases as follows:

"In those cases in which the eclampsia occurs during

pregnancy, the condition present in each individual case must determine its subsequent management. Where no other symptoms of nephritis exist, the convulsions should be controlled by the administration of the usual quantity of veratrum; after which, it should be given in smaller doses as a prophylactic, together with appropriate treatment for the uræmia. In those cases, however, where visual disturbances and violent headache indicate albuminous retinitis, with other evidences of profound uræmic intoxication, it is best to at once place the woman on the safe side by inducing premature labor."

Where normal action of the kidney can be restored by treatment, veratrum may be employed in this way in those cases of convulsions occurring during pregnancy; but as it is generally believed by the best-informed obstetricians that the uræmia previous to convulsion is due to pressure of the gravid womb on surrounding organs, we can expect little permanent success from such remedies until this pressure is removed.

This being the case, it is evident that the cases in which this action of the remedies will be used to greater advantage, are those in which the convulsions develop a few days only before the beginning of labor. In such cases, we can stimulate the kidneys as much as possible, and then call upon the skin, etc., to help bear the load during this short time, while by keeping the circulation under 60 with veratrum, we control the convulsions until labor has commenced, when, if necessary, we can deliver with instruments. In those cases where the convulsions develop at a period remote from the end of gestation, this plan should be adopted and the patient closely watched by the physician. The veratrum will *invariably* control the convulsions; but in this class of cases, should the normal renal functions not be re-established under appropriate treatment within ten or twelve hours, the *os* should be dilated and the uterus emptied of its contents. And as I accept the pathology of the disease in which the gravid womb is considered the most important ætiological factor, I would usually expect to be compelled to resort to this procedure in this class of

cases. To quote again from my article referred to above: "This treatment, like all others, is only capable of holding the convulsions in abeyance until the conditions producing them are removed." And the ideal indication for its use is in those cases where—as is fortunately usually the case—the convulsions develop during or immediately before the beginning of labor. Here we control the convulsions, and, if necessary, assist nature in removing the cause.

I wish to especially emphasize the point that veratrum will *always* and at *all times* control the convulsions. It will not, however, remove the primary and essential cause, and this fact should be borne in mind.

In discussing my paper read in Mobile, Dr. Maréchal, of that city, criticised my assertion that veratrum would relieve *every* case of convulsions—he taking the stand that as all cases are not produced by the same cause, they naturally require different remedies.

Now, if there was one point that I tried *especially* hard to emphasize in that paper, it was that the best authorities in the world claim to-day that practically all cases of puerperal eclampsia are due to one and the same cause—uræmia; and I quoted such men as Lusk, Dieulafoy, Hofmeister, Naegler, Fehling, Doderlein and Duhrsen in support of this opinion. The old classification of these cases into hysteric, epileptic and apoplectic, has been abandoned by the foremost men of the profession; and while there is probably occasionally a hysterical woman who will be thrown into convulsions by the shock of labor, any intelligent physician should, I think, be able to distinguish such an attack from the more serious form due to uræmic intoxication.

It is indeed strange that men will hesitate, from purely *theoretical* reasons, to employ a remedy where competent observers have demonstrated its positive superiority by actual and long experience. The array of practical evidence presented in the paper referred to, should be sufficient to convince the most skeptical of the undoubted and unequalled efficacy of veratrum as a safe and sure remedy in puerpera eclampsia. Forty-three cases were collected in which the

drug has been administered with not a single death, nor a *failure* to promptly relieve the convulsions. This is indeed a most remarkable record, when we remember that the mortality following the usual method of treatment is estimated to be as high as 40 per cent. by conservative and competent men.

The evidence in favor of the treatment was increased during the discussion of the paper, when men who have grown gray in the work of the profession asserted that they had used it for years, and never without success.

The dose that I advise is from 20 to 25 drops under the skin. I do not claim that smaller doses will not relieve, but the large dose will relieve sooner, and is *absolutely safe.* In this treatment, the pulse must be the guide by which the veratrum is administered. If kept under 60, the convulsion will not occur. The reason for this is obvious when the pathology is considered.

The cause of the convulsions is the toxine contained in the blood—acting as an irritant to the nerve centres.

Therefore, the convulsion may be controlled in two ways. *First.* "By the administration of drugs that obtund or paralyze the nerve centres, to the effects of the irritating toxines as exemplified by the action of chloroform, chloral, morphia, and other anti-spasmodics. *Second.* By diminishing the *quantity* of toxines flowing to the nerve centres. This is accomplished by blood-letting and other arterial depressants, and it is in this way that veratrum so promptly affects the convulsion." In other words, when giving veratrum, we, by bleeding the patient into her own abdominal blood-vessel, and by lowering the force and rapidity of the circulation, remove a large quantity of the irritating matter from the nerve centres.

My rule is to control the convulsion at once by administering Norwood's tr. veratrum, gtt. xx–xxv, hypodermically, and then order it given internally, in ten-drop doses, when the pulse gets above 60.

This is the fourth case occurring in my own practice, and the sixth that I have relieved—having seen two in con-

sultation—and I never knew a patient to suffer much from nausea before.

My father, Dr. Ralph Davis, who used the treatment 25 years, and whose experience was published in the *Virginia Medical Monthly*, April, 1894, seldom had nausea to contend with. Where it does occur, morphia and atropia will relieve it at once.

In the case reported, I think I erred in not directing veratrum in ten-drop doses as a prophylactic at my second visit. The convulsion would doubtless have been prevented had I done so.

I would also like, before closing, to refer to the splendid effect of the pot. bitartrate on the albuminuria. Dr. Gunn informs me that he has often used it in similar cases with equally good results, and I shall certainly try it again.

Art. XII.—Some Suggestions as to the Etiology and Treatment of Tuberculosis.

By JAMES M. PINKSTON, M. D., Paducah, Ky.

Tuberculosis is more fatal than any other disease to which the human family is subject, and, in some respects, differs from any other contagious or infectious disease. It is the only one that is supposed to want an antagonizing vital principle in the blood, or in the tissues and secretions. The hereditary predisposition, and the age when most cases occur, considered in connection with the fact that the powers of resistance in adult life are ordinarily superior to those of childhood and infancy, would seem to indicate that the disease occurs in consequence of a defective nervous system. This defect, either inherited or acquired, furnishes a soil deficient in the antagonizing principle, so that the bacilli live and thrive in it without antagonism. This necessary preventive agent, whatever it may be, seems to be increased by tonic and hygienic treatment. Nervous tonics, as they are more efficient, given hypodermically,

will likely produce the best results. Arsenic, being one of the best nervous tonics, as well as a good hematuric, combined with strychnia, also administered hypodermically, would, no doubt, prove highly beneficial. Until the antagonizing inherent principle, that exists in most people, and that furnishes an immunity to the disease, under ordinary circumstances, shall have been determined by microscopical investigation, our treatment will necessarily be symptomatic, and based on clinical observation.

If the assumption be correct, that there is a natural deficiency of an inherent protective agent in those *hereditarily* predisposed to tuberculosis, whether such deficiency exists from infancy, or results from a defective or peculiar nervous organization, it is improbable that we will ever produce a permanent immunity to the disease. It is hardly to be presumed that it is possible, by any mode of treatment, to so transform the nervous system, which presides over the metabolic processes, as to permanently supply a particular agent that is unnatural, or else that is supplied to the system in sufficient quantity, in consequence of an inherent defective metabolism. However, as the nervous system frequently acquires habits, as exemplified in convulsive and other nervous disorders, it may be within the range of possibility to permanently stimulate a particular function that is simply below the normal standard.

The latter theory or suggestion, if correct, may be determined by clinical observation and experimental medication, or it may be the result of scientific investigations, the microscopists having first to determine the predisposing condition. I have seen it suggested, that, on account of the peculiar condition constituting a predisposition to tuberculosis, the baccilli are not the cause, but the consequence of the disease. This would seem to be practically true, as this is not an ordinary condition of lowered vitality, as shown by the hereditary inclination of some and immunity of others to the disease. A deviation from the normal healthy standard of the blood or other secretions and tissues, as indicated by the predisposition, etc., is disease it-

self, although imperceptible, *but it is not tuberculosis* It seems to be an unconscious, peculiar, unhealthy state of the system that is favorable and necessary to the existence and propagation of the tubercular bacilli. Tuberculosis, is, therefore, a disease dependent upon a peculiar impoverished soil; and to successfully treat it, we must enrich the soil by stimulating the vital energies, and thereby supply the protective principle. Clinical experience teaches us that a tonic and hygienic treatment does this, as indicated by the arrested progress of the tubercular process.

Further knowledge of the principle to be supplied, will enable us to institute treatment with more precision and expect more definite results. The fact that tuberculosis is transmissible to those who possess no predisposition, would seem to militate against the theory that there is a special predisposing cause; but that does not disprove the theory. Where there are two contending forces, one being weakened and the other reinforced all the while, the former will finally succumb.

To acknowledge heredity as a predisposing cause, a peculiarity of blood, secretions, or tissue construction would naturally follow. While Koch has discovered the true cause of the disease to be the bacillus tuberculosis, he has not demonstrated on what the hereditary predisposition or immunity depends—although such is absolutely necessary to enable us to treat tuberculosis from a scientific standpoint. There is an immunity to small-pox for a good many years after successful vaccination, and a permanent immunity to some other diseases after a single attack. But these are unlike tuberculosis in a very important particular. They have a definite course to run, are of short duration, and terminate in recovery in a majority of instances. On the other hand, tuberculosis runs an indefinite course, terminating usually with the life of its victim. When the individual has once experienced an attack of small-pox, measles, scarlet fever, etc., there is a great reluctance on the part of the system to again supply the principle which once constituted

a predisposition to the disease. In these diseases, it is assumed that the predisposition consists in the presence of an agent for which the bacilli or micrococci have an affinity; and in tuberculosis, there is an antagonizing agent which, when deficient in quantity or absent, there is said to be a predisposition, or, more correctly, a want of immunity to the disease. Therefore, to effect a cure of the disease or continued immunity, will require an increased supply or greater vitality of an unknown principle. Metchinokoff's phagocytic theory is, perhaps, correct, and unless disproved, will no doubt furnish a basis for future investigation.

Our treatment of tuberculosis will necessarily remain expectant, hygienic and tonic, on the general reconstructive plan, until microscopists or bacteriologists shall have ascertained the prerequisite conditions, if any, to the development of the disease. Special therapeutics in the treatment of tuberculosis is, therefore, at present more or less empirical, and will have to abide the test of clinical experience.

To sum up, tuberculosis has for its first cause the bacilli of tuberculosis; indeed, this is probably the only cause. But special conditions are necessary to furnish a suitable soil for their development and propagation. Otherwise, tuberculosis would not result. The leucocytes are probably the antagonizing agents of most all diseases, and possibly not more so in tuberculosis than in other affections. This want of vital resistance on the part of the leucocytes, and probably other secretions, in consequence, perhaps, of a peculiar nervous organism that presides over digestion, assimilation and tissue construction, may be transmitted from one generation to another, as we frequently see exemplified in some families, to convulsive and other nervous diseases. The evidence, so far as we know, is not in favor of a specific element or substance in the system which may be exhausted and render the system immune to tuberculosis. If such were the case, it ought to be a self-limited disease.

If our conclusions are correct, all scientific efforts to ren-

der the system immune to tuberculosis, or produce a permanent cure, will prove futile. Antiseptic precautions, the observance of sanitary rules for prevention, and hygienic and reconstructive measures for treatment, will probably be the result of all investigations.

Art. XIII.—Static Electricity in Functional Nervous Diseases.*

By FRANCIS B. BISHOP, M. D, of Washington, D. C.

The following short resume of my experience of the treatment of functional nervous diseases by static electricity is presented with the hope that the "Fellows" will fully discuss the subject, and thus add much knowledge in the way of personal experience.

I will endeavor, first, to state, in as concise a manner as possible, a class of cases, the treatment of which by static electricity has proven useless. The method of treatment will also be given. I will then relate the class of cases that have been benefitted by this form of electricity, together with a description of the methods which, in my experience, have proven the most useful.

I treated a case of spinal irritation, with tender points on both sides of spinal column, from the occiput to the lower lumbar spine, with tenderness of all the muscles of the side supplied by the nerves in this area. This case had been standing for years, and, among other methods, she was treated by static insulation and the static direct spark before coming to me. She stated that in every instance her trouble had been intensified by the static current. I tried her with the breeze from the wooden ball several times, but she complained so bitterly of increase of pain that it was discontinued.

I have never yet succeeded in even temporarily relieving a case of sciatica, from any cause, known or unknown, by static electricity. I have tried the spark, direct and indi-

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* Read before the American Electro-Therapeutic Association, at Toronto, Canada, September 5, 1895.

rect; the wire brush; the wooden ball, and the roller, as well as the static-induced current.

In writer's cramp my experience has been the same as with sciatica.

I have failed to relieve trigeminal neuralgia, as well as cervico-occipital neuralgia, with the static current, by any method with which I was, at the time, familiar. Since then, however, by the aid of two induction coils, constructed by myself, and suspended from the small Leyden jars, a static current of great tension and exceedingly fine vibration is induced, and with this current two cases of neuralgia of the ulnar division of the brachial plexus have been relieved. It is hoped also to find it successful in some of the cases where static electricity formerly failed. I do not know that the idea of these coils or their use is in any way new to others, but to me they are quite new. I certainly have never seen them used before.

These coils are made of twenty-two or twenty-three turns of heavily insulated No. 6 copper wire for the primary coil; this, in turn, is wrapped in several thicknesses of manilla paper, which has been thoroughly soaked in linseed oil; around this is wound fifty feet of small copper wire, heavily insulated, forming the secondary coil. These coils are suspended from small Leyden jars by a hook on the end of the primary coil, and the conducting coils are attached to lower end of secondary coil, the patient getting the current by induction.

This static-induced current has been found very useful in the treatment of acute inflammation, especially sprains and rheumatic pains in the joints. A very soothing effect is produced in the neurasthenic and insomnia accompanying cerebrasthenia. The patient is placed upon the insulated platform, which has been supplied with a metal cover; one pole is attached to this cover; a bifurcated cord is fastened to the other pole; two metal handles are attached to these cords, and these the patient holds in his hands. His shoes are removed to prevent pricking of the feet by the current following the tacks through his shoes. The current

is now turned on until a gentle thrill is felt in hand and feet. In from five to fifteen minutes, a sensation of drowsiness and comfort comes over the patient. This sensation often lasts several hours, and is followed in many cases, after the first treatment or two, by sleep, more or less continuous and refreshing, which before has been often short in duration and unrefreshing. Stronger currents may be obtained by using larger Leyden jars.

By modifying the static current in this way, it is possible to use it in painful conditions of the female pelvic organs with good results.

I am now using with great benefit, in functional nervous diseases, a "static cage," such as Dr. J. H. Kellogg, of Battle Creek, Mich., mentioned during the session in New York last September, as having used with great benefit. The wire cage is attached to one pole of the battery, and the metal-covered platform to the other. Dr. Kellogg uses metal points in his cage, but I use tinsel brushes. The idea of tinsel brushes and metal-covered platform is, to the best of my knowledge, original.

The patient stands or sits with his feet on the metal cover, and the cage is lowered over him from the ceiling. One prime conductor is attached (by means of a heavily insulated wire) to the cage; the other prime conductor is connected with the metal cover by similar means; the poles are now separated and the machine set in motion. A perfect shower of electricity in the form of a cool spray from every tinsel brush now flies to the patient, producing a most delightful sensation; at the same time the patient is surrounded with an atmosphere of ozone. Now stop the machine and approximate the poles, then start it again, and gradually separate the poles, the entire body is at once subjected to a rapid succession of mild shocks, so that every fibre of the body may be said to be in a state of rapid vibration, which in a short time produces a comfortable sensation of warmth. In administering this vibratory current, if the shoe-soles are thick or dry, the current, in overcoming the resistance, reaches the foot in the form of a spark, which

renders the treatment uncomfortable, but this can be readily obviated by having the patient remove his shoes.

This cage is used with much satisfaction to myself and benefit to those patients suffering from functional nervous troubles, and, in many cases, relieving the distressing symptoms of an organic disorder. The moral effect in the majority of cases is seen at once. The physical effect is soon noted by the appearance of the patient.

A case in point—A young lady was sent home from a seminary in consequence of a severe chorea minor, complicating chlorosis. She was placed in the static cage, and given the static shower-bath ten minutes; during this time she was made to inhale, deeply and regularly, the electrified atmosphere which surrounded her. The poles were then approximated, and the oscillating current, as strong as she could comfortably stand, was given for ten minutes. At the end of the treatment, she would invariably come out of the cage with rosy cheeks. At the end of three weeks, her menstrual function was reëstablished; the chorea was gone; the chlorosis had disappeared, and she went away feeling well and happy. This case was treated daily.

Neurasthenic and hysterical cases are treated by this method with great benefit. Of course, any local trouble should be properly treated.

The tonic effect is most surprising The weak and anemic are more quickly and more pleasantly restored than by any course of iron. The digestion is improved; the weight increased; the equality of the vascular and nervous systems is established, and in many cases of functional nervous diseases, the patients are perfectly restored in a few months. Many cases could be given in detail, treated beneficially by this method, but time will not permit. In brief, however, it may be stated that the static oscillating current can be used with great benefit where general faradization, as introduced by Dr. Rockwell, is indicated, but where the removal of the clothing could not, or would not, be tolerated.

During the past winter, several lady school teachers have been under my care, who, notwithstanding they came in a nervously prostrated, and, in a majority of cases, anemic

conditions, continued to teach during the entire session, gaining in weight, strength and spirits. They were all treated in the static cage.

Dr. Kellogg has suggested the use of a larger machine than those in ordinary use. No doubt, for some cases, the suggestion is good, but by economizing the current by the aid of the heavily insulated wire conductors, and by using the metal-covered platform, I find that, generally, there is more current than necessary from the usual sized machine.

There, Mr. President, are some of my experiences with static electricity in the treatment of functional diseases of the nervous system by means of the static cage and induction coils.

They have prompted me to place before the Association this brief paper for discussion, firmly believing that all who will give these appliances a fair trial will be pleased with the results, and will find them capable of doing very much more than has been claimed for them.

1913 *I Street, N. W.*

Proceedings of Societies, Boards, etc.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Meeting of November 11*th*, 1895.

Dr. L. Eliot read a paper on

Prolapsus Recti. [See page 960.]

Dr. Vincent said the essayist had gone over the whole operative field. He had seen four cases, in elderly people, that were not operable where he had used washes and the recumbent position, often replacing the prolapsed bowel. He related the case of a hysterial girl, aged seventeen, who also had retention of urine; had used cold water, tannic acid, nitrate of silver, recumbent position; these failing, she was operated on. A ring of the prolapse was removed and the divided edges united with interrupted sutures and the bowel replaced. There was much shock and considerable

pain following the operation. There was no tendency to return of the prolapse at the end of a year; her health and general condition had improved very much. Has not seen nitric acid used in these cases.

Dr. Bishop said the electrical treatment of prolapse of the rectum is spoken of very highly, but he has had no personal experience with it. In employing electricity the patient is given a rectal douche and placed in the Sims or the knee-chest position, the negative pole is inserted into the bowel and a large pad placed over the abdomen. Some authorities place one electrode over the spinal nerve centres, with a Faradic current with slow interruptions. Where an astringent effect is desired, a solid zinc electrode, attached to the positive pole of a galvanic battery, is introduced into the rectum, the indifferent or negative pole is placed on the abdomen, a 10 or 15 nea current is turned on, the zinc in the rectum being gradually moved about to prevent adhesion to the mucous membrane; the zinc is decomposed and oxychloride of zinc is deposited and driven into the tissues.

Dr. Reyburn said he could testify that nitric acid does not always result favorably; has seen cases where injury had been done by its application, since it is difficult to limit the destruction of tissue and stricture is liable to follow. Prefers to dissect out a V-shaped piece of the mucous membrane and suture the edges, or removes an annular ring of the protrusion and unites the edges. In one case he had removed a ring, but the wound did not heal, but he suspected epitheliome. All bleeding vessels must be ligatured before the wound is closed. Uses the knife in preference to the cautery.

Dr. Sothoron said he certainly agreed with the essayist and with Dr. Reyburn in regard to the bad results following the extensive use of nitric acid. Had treated several cases of simple prolapsus in children, which would not yield to other treatment, by very mild applications of fuming nitric acid, with successful results. Remembered a very unique case of a woman, which Dr. Bovée had seen with him. She suffered greatly from extensive prolapsus, which was one of many complications. She died, and the autopsy showed a large fibrous tumor, almost closing the large intestine near its junction with the small intestine. This tumor was, no doubt, the cause of the large amount of prolapsus.

Dr. Carr said a great many cases require very little treatment; the patient may be free from all pain or annoyance from the prolapse, except constipation. In mild cases as-

tringents and electricity are all that will be necessary; where they fail, a few linear incisions may be made with galvano-cautery or the Paquelen cautery. In cases similar to that of Dr. Eliot nothing short of an operation would be of benefit.

Dr. Walsh said he was present at the operation, and that the sections were followed by very free hæmorrhage. He was rather surprised from the amount of tissue removed from the several places that stricture did not result instead of a recurrence of the prolapse.

Dr. E. L. Morgan said he generally found benefit result from the use of astringent washes and position.

Dr. Chamberlin said that in mild cases dilation with the rectal speculum might cause sufficient muscular contraction to effect a cure.

Dr. Eliot, in closing, said that while the hæmorrhage was free the constricting band had prevented spurting, while it had allowed oozing. The stricture which might result from cauterization or from excision would soon be overcome by efforts at stool. Since the operation he had procured a hæmorrhoidal suture clamp, designed by Erwin, of Walter's Park, Pa., which would allow the mucous membrane to be caught up and clamped; the portion clamped is to be removed and sutures passed through the stump and tied. Should another case present itself for operation he would be very apt to use this clamp.

Dr. Kober read paper on

Primitive Minor and Major Surgery. [See page 913.]

Dr. E. L. Morgan said we could even learn something from savages. He spoke of the operation for pterygeina; the treatment of frost bite by sucking the part. He stated the operation of lithotomy had been performed in India years before the birth of Bigelow. He then referred to the Mika men. A "Mika" man, amongst the Australians, is one upon whom an operation is performed to produce an artificial hypospadiæ, and this is done in three days; in the first method a small incision is made in front of the scrotum into the urethra; the second is to divide the urethra in front of scrotum, and again below the glands penis, dissecting out the urethra by means of a longitudinal incision along the canal, while the third and most common way is to lay the whole urethra open down to the scrotum. The penis is first benumbed by pounding or beating the organ. At the eighteenth year of age the least useful and indolent youths of the tribe are operated upon.

"Euriltha" is an operation performed upon a girl at the age of ten or twelve years, in order to prevent her in the future from bearing children. A roll of "emu feathers," from seven to eight inches in length, thinner at one end than the other, is tightly tied around with twine made from the fur of the opossum, which is smeared with fat and red ochre. To the small end of this tampon a cord of human hair is attached, looped over it, being brought down to the thicker end. The girl is placed upon her back, the end of the roll described, with its loop, is introduced into her vagina; along the side of this tampon is inserted a flat piece of a stick, by means of which the loop at the upper end is placed around the cervix uteri. After a considerable period of time, and when the parts have become swollen, the operator, either an old man or an old woman, twists the cord around his or her hand, and the portion of the cervix in the loop is forcibly severed, and drawn out with the roll and loop. After three weeks a small flint knife is attached to a stick six inches long, is passed into and along the vaginal tract and vertical, and transverse incisions are made into the stump of the cervix. These incisions are packed with ducks, or eagle, hawk down, to keep them open, and lumps of heated fat are inserted to grease the parts and keep them clean. After the healing of these wounds, the lower end of the posterior wall of the vagina is divided down to the anus, in order that sexual intercourse with "Mikas" may be facilitated. These women are called "Dindans, or Dindees."

Dr. J. H. McCormick said that Dr. Morgan seems as inclined to take issue with my views upon this subject. There can be no doubt that not only was primitive medicine thaumaturgic and theurgic, but surgery as well. We must remember the condition of man's mind at this period, and not neglect to take into consideration the fact that all arts and industries of early man were crude and imperfect, and it is unreasonable to suppose that while medicine was in a like condition and on the same plan, that one branch alone, namely, surgery, could have been so far advanced as to render so formidable operations, attended with such advanced knowledge and skill, possible of accomplishment, as feats of surgery as such. Both speakers have fallen into error the same as Bartels himself. Bartels was a closet student, and not a field worker, and there is a great difference between the two. The former is unable to comprehend the exact condition of things with the degree of precision of the latter, and hence their conclusions are modified.

Then, too, it would seem they have viewed the past, the actions of these primitive people, through their own eyes, and have ascribed to them our own concepts, are error we are too prone to commit. It is obvious that deductions based upon such conceptions are erroneous. Primitive man was but a child in thought, and we must not, therefore, endue him with a man's intellect. Dr. McCormick had elsewhere pointed out that primitive trephining was thaumaturgic, and the essayist himself, in describing a laparotomy or Cæsarian section, admits that the operator, before beginning, mutters some unintelligible gibbish, which is nothing more or less than a prayer to propitiate the invisible devil who has thus bewitched the patient. Among the North American Indian, the Hindoo, and the Australian, the rheumatism is caused by a worm, and they scarify to let the worm out; caries of teeth is supposed to have the same origin. The Cherokees have a great horned serpent which causes swelling and tumor; abscesses contain a devil, and wherever the pain is localized, all that has to be done is to open the place and let the devil out. In the cases of operation described by Dr. Kober this has been the case. Time does not permit a more elaborate discussion, but sufficient evidence can be produced to substantiate the claim that such operations are necessarily thaumaturgic.

Dr. Kober, in closing, spoke of the use of a decoction of willows in treating wounds. Many remedies in the savage materia are useless.

Dr. L. Eliot presented an *apparatus for administering chloroform-oxygen anæsthesia.*

SOUTHERN SURGICAL AND GYNÆCOLOGICAL ASSOCIATION.

The Eighth Annual Meeting was held in Washington, D. C., Nov. 12–14, 1895. We regret that our lack of space does not permit a full report. The attendance of members was smaller than usual, but the interest in the meetings was great, as the value of the papers was above par. Beside a number of dinings and private entertainments for groups of members, Dr. Joseph Taber Johnson gave a most enjoyable reception at his home on Wednesday, and the Obstetrical and Gynæcological Society of Washington gave a banquet on the night of the 12th. Among other pleasant incidents

of the session was the presentation by Dr. Harry Marion Sims, of New York, of a gavel to the Association turned from one of the legs of his father's operating table.

Nashville was selected as the place for the Ninth Annual Meeting, Tuesday, November 10, 1896. The following were elected officers for the current year: Dr. E. S. Lewis, New Orleans, *President;* Drs. Joseph Taber Johnson, Washington, and Richard Douglas, Nashville, *Vice Presidents;* Dr. W. E. B. Davis, Birimngham, Ala.—the life of the Association—*Secretary;* Dr. A. M. Cartledge, Louisville, *Treasurer;* Dr. W. D. Haggard, Nashville, *Chairman of Committee of Arrangements.*

In the *Address of Welcome*, by Dr. S. C. Busey, he alluded to the lack of qualifications required to obtain license to practice medicine in the District of Columbia, and appealed earnestly to the members of the Association to use their individual influences with Congressmen to protect the profession and the people of Washington city from the tramps of ignorant persons who flock there to enter upon the practice of medicine after being rejected by every State Examining Board before which they may appear.

Among papers read was one by Dr. Bedford Brown, of Alexandria, Va.—Ex-President of the Association—detailing his

Personal Experience in the Treatment of Stab Wounds of the Intestines and Peritoneum.

His observation covered about 130 such wounds. He remarked upon the disproportionate frequency of escape of intestinal injury—in less than a third of his cases were the intestines wounded. He regards the *sabre* wound as one of the most dangerous—especially if the edge and point are sharp. Cutting through the intestines and mesentery, it severs large blood-vessels, causing speedy death. The *stiletto* almost invariably enters the intestine or other organ—making an opening in the intestine large enough to permit the escape of some fæcal matter, causing septic inflammation. As to *diagnosis* of intestinal wounds, Senn's hydrogen gas test is useful. But when this is impracticable, he inserts his disinfected index finger to explore. If the intestine is wounded, there is escape of fæcal matter or gas, and if the finger comes in contact with this matter, it will retain for some time the peculiar odor of human fæces. He *closes peritoneal wounds*, after disinfection, with silver wire. During the War, previous to the antiseptic day, simply ordinary

cleanliness of instruments, dressings, etc., was used; yet the percentage of healing of simple peritoneal wounds by first intention was large. The two vital procedures in treating wounds of the intestines are, 1, thorough closure of the intestinal wound, and 2, cleanse the peritoneal cavity of all fæcal matter, blood and gases. *To reduce a protruded intestine* in stab wounds, he threads two long, slender, curved needles with about a foot of silk. Pass one of these needles midway through the margin of the wound; pass the other needle through the opposite margin, and then tie each cord in a separate loop. These cords are drawn in opposite directions by two assistants, upward and outward, firmly and tightly. The wound is thus made to gape, while the walls of the abdomen are very considerably elevated above the intestines while the patient is on his back. In this way, a considerable vacuum in the abdominal cavity is created, and the intestines will glide back into the cavity—without force or manipulation—to fill this vacuum.

Dr. Richard Douglas, of Nashville, said we always have a mixed infection—more serious than that from the colon bacillus—in peritoneal wounds. Peritonitis is always of germ origin. In closing abdominal wounds, always approximate the peritoneum so as to lessen the danger of hernia.

Dr. C. A. L. Reed, of Cincinnati, thought that however erudite the tactile sense, mere exploration with the finger, to detect stab wounds of the intestine, would be misleading. Hence, enlarge the original wound, and bring out and carefully inspect that part of the viscera lying immediately beneath. The peritoneal margins should be carefully approximated.

Dr. James Evans, of Florence, S. C., during the War frequently saw gun-shot wounds of the abdomen, with discharge of fæces through the wound, but accompanied by shock. He referred to nine men receiving bayonet chest-wounds who recovered—the bayonets having been previously stuck in the ground. In another man, who had a penetrating shot-wound within a half inch of the navel, the omentum extruded to the size of both his hands, and yet had no rise of temperature, and the man recovered.

Dr. A. Vander Veer, of Albany, N. Y., said there should be no delay in treating stab wounds; do not wait for symptoms. As surely as perforative appendicitis will soon kill, so will stab wound of the intestine unless timely treated.

Dr. Hugh T. Nelson, of Charlottesville, Va., thinks it im-

perative always to enlarge the abdominal wound at once. He reported a case showing that adhesive inflammation would take place in twenty-four hours which would prevent necessary return of bowels, etc., if operation was so long delayed.

Dr. W. E. B. Davis, of Birmingham, Ala., with reference to wounds of the gall-bladder, said that if there is a large escape of bile into the peritoneal cavity, death would soon result, but not from septic peritonitis. Generally the shock following abdominal injuries is due to hæmorrhage.

Dr. J. D. S. Davis, of Birmingham, Ala., has very little confidence in the hydrogen gas diagnosis. Perforative wounds of the abdomen sometimes are such as to make it impossible to flush the cavity sufficiently to clean it without enlarging the wound. He adds the shock of sepsis to the three forms of shock mentioned by the essayist.

Dr. Brown, in closing, in answer to a question by Dr. George Ross, of Richmond, Va., as to diagnosis between nervous shock and shock of hæmorrhage, said that one of the most unerring symptoms was rapid fall of temperature in hæmorrhage. With reference to approximating the peritoneum, he had found it good practice to leave it untouched in closing simple wounds of the abdominal walls.

Dr. A. Vander Veer, of Albany, read a report of

Seven Cases of Abdominal Surgery in which the Murphy Button was Applied.

While the Murphy button will not answer for every lesion of the intestinal tract, it surely has its sphere of usefulness —being clean, easily handled, and saving the patient from a much longer operation than can be secured by other methods *Case I. Carcinoma of Pyloric End of Stomach.*—Gastro-intestinal anastomosis between upper end of jejunum and greater curvature of stomech. Medium-sized Murphy button. Death on third day from exhaustion. *Case II. Carcinoma of Sigmoid Flexure.*—Three inches removed. End-to-end anastomosis of large intestine with Murphy button. Death on 11th day from exhaustion. *Case III. Stones in Gall-Bladder.*—Removal of gall-stones. Long drainage tube Murphy button. Recovery. *Case IV. Removal of Eight Inches of Small Intestine with Papillomatous Ovarian Cyst.*—End-to-end anastomosis with Murphy button. Recovery. *Case V. Anastomosis of Gall-Bladder with Small Intestine.*—Murphy button. Recovery. *Case VI. Gangrenous Strangulated Hernia near Umbilicus.*—Ten inches small intestine re-

moved. End-to-end anastomosis. Murphy button. Recovery. *Case VII. Biliary Calculi, etc.*—Long drainage tube Murphy button in fundus of bladder. Five calculi removed several days afterwards. Cerebral anæmia developed with delirium; then comatose condition with temperature of 105.5°; death.

Dr. H. H. Grant, of Louisville, read a paper on

Intestinal Resection and Anastomosis.

What the Murphy button is intended to do, it does well; but it often does what is not intended, and disaster follows. It may become a foreign body, spreading necrosis involving the peritoneum; recontraction takes place after lateral anastomosis; deaths are frequently attributable to it., etc. Next to the button, *lateral anastomosis* is the best method of resecting the continuity of the bowel. It requires the direct suture, which is of difficult execution. To facilitate this suture, he showed a device for clamping opposing surfaces of the bowel, cutting off fenestra between them, and retaining them so opposed until the suture can be completed. This method not only does away with the foreign body (button), but cuts an opening three or four inches long at the fenestra; it is easily done, and takes less time. It is no more difficult to use than the button, but the operation cannot be so quickly completed, as invagination of the ends is not necessary after the end-to-end approximation by the button. The clamp makes direct suture easy to an ordinarily skilled hand. He had experimentally used his device sixteen times with fourteen consecutive recoveries, but had had only one opportunity to use it in practice—the patient recovering nicely.

Dr. C. A. L. Reed said the Murphy button ought not to be used in approximation of large intestine, because the colon contents are not sufficiently liquid to pass through the opening in the button. He reported a case of resection of the sigmoid for malignant disease which ended fatally, in illustration—the button having been used. Cholecystenterostomy by means of the button is one of the easiest, neatest and altogether most satisfactory operations in surgery. He commended Dr. Grant's device for the class of cases he had spoken of.

Dr. J. M. Mathews, of Louisville, remarked on the difficulty of diagnosing tumors in the sigmoid. He agreed with Dr. Reed in opposing the use of the button in resection of the sigmoid. Cancer of the sigmoid, besides the

systemic infection, usually involves other organs and tissues. Hence resection will not cure. He favors the plan suggested by Dr. Bacon, of Chicago, of anastomosing the colon to the rectum, leaving the growth there, which would be a more favorable operation than extirpation of the cancer.

Dr. A. M. Cartledge, of Louisville, said in cholecystenterostomy, the Murphy button is not as useful as the ordinary method of suturing. In cases with many small calculi occupying the cystic and common ducts, he made a comparatively large incision in the gall-bladder and sutured it to the peritoneum, and the stones would then pass for days externally through the drainage tube. The hole in the button is too small to permit such passage. He thinks Dr. Grant's device an excellent one for lateral anastomosis.

Dr. W. E. B. Davis said the Murphy button should be used in cholecystenterostomy only where obstruction in the common duct cannot be removed. Abbe's method of stitching is better in intestinal work, and accidents are not so likely to follow it as by the use of mechanical appliance which is non-absorbable.

Dr. Vander Veer is satisfied that the button anastomosis in the large intestine is not likely to be satisfactory because of the small calibre of the button. Dr. Grant's device is of value. He thinks the button excellent in performing cholecystenterostomy.

Dr. J. McFadden Gaston, of Atlanta, read a paper on

Surgical Interference in Rectal Disorders

As to eradicating syphilitic rectal troubles by medication, is a mooted point. Resort should be had to such surgery as the condition requires while constitutional treatment is kept up. Strictures of the rectum may result from syphilis. Fibrinous strictures call for excision or division. Carcinomatous induration is benefitted if early excised; but if the neoplasm breaks down with infiltration of surrounding parts, excision does no good. He appealed to surgeons to definitely settle the issue as to whether any or what interference should be had in cases of pronounced cancer of the rectum.

Dr. J. M. Mathews remarked that to have reflexes from the rectum, we must have a pathologic condition. So-called orificial surgeons had run wild with reflexes from normal rectums; hence injury done many healthy citizens. Benign rectal stricture is very rare. If it occurs, it is simply an annular constriction of the mucous membrane,

which is easily dissipated. Stricture of the rectum betokens one of three serious conditions—syphilis, tuberculosis or cancer. Sixty per cent. of cases are due to syphilis. He doubts if we can successfully remove the rectum for cancer.

Dr. Herbert M Nash, of Norfolk, Va., had cured a number of cases of ulcer of the rectum by dilating the sphincters and topical applications. He places the patient in the exaggerated Sims' position and uses Sims' speculum in such operations.

We present in another department the paper by George Foy, F. R. C. S. I., of Dublin, giving "*The Surgery of the Prostate Gland.*"

Book Notices.

Modern Materia Medica. with Therapeutic Notes. By Dr. OTTO ROTH. *Seventh Edition.* Revised by Dr. Gregor Schmitt, Director of Royal National and Provincial Boards of Health, Wurzburg. New York: William Wood & Co. 1895 Muslin. 8vo. Pp. 467. $2.

Subscribers to Wood's Medical and Surgical Monographs some years ago may recall this work as translated for that series. The Publishers state that it proved so popular "that we have just completed a translation of the seventh edition, recently published in Germany." The revision, from a German standpoint, is up to date. The style is as synoptical as easy reading will permit. The book opens with a section practically on classification of drugs from their physiological and therapeutical effects. Drugs and other remedies as alphabetically arranged, are next considered, with special reference to their uses, doses, etc. Brief lists of remedies for subcutaneous and inhalation uses are given. The "Therapeutic Notes" occupy about 130 pages. Then there are sections on maximum doses for adults, dosage for children, etc. For the young practitioner, the numerous prescriptions given will prove an attraction. We are surprised, however, that no description is given of the treatment of diphtheria by antitoxin; nor, indeed, is there any detailed description of serum-therapy. This is unfortunate for this day, when all are lookin g to antitoxins as remedies. Some other points of criticism might be indicated; but the general merits of the book are so numerous and decided that we will not undertake to make prominent those few sections that the author or the translator will undoubtedly improve in the next edition.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By LEADING AUTHORITIES OF EUROPE AND AMERICA. Edited by THOMAS L. STEDMAN, M. D., New York City: *In Twenty Volumes.* VOLUME IV. DISEASES OF THE VASCULAR SYSTEM AND THYROID GLAND. New York: William Wood & Co. 1895. Large 8vo. Pp. 841.

As this *Encyclopædia of Modern Medical Science* progresses volume by volume each quarter, we recognize the stupendous undertaking. It of course becomes the standard work of the age in medicine, and as such it will remain for many years. If those of our readers who intend doing so have not already subscribed, we would urge upon them to begin at once, for the payments for the invaluable library (when the twenty volumes are issued) are easier at $5 a quarter than the single payment of $100 for the completed work in 1899. In addition, the receiver of a volume each three months will find interest and profit in reading it; whereas, if he waits much longer, and gets several volumes at one time, the work is not so apt to be thoroughly read and digested. Dr. Jas. T. Whitaker, of Cincinnati, contributes about half the amount of material in this fourth volume—his subject being Diseases of the Heart and Pericardium. Drs. A. Ernest Sansom and Bertrand Dawson—both of London—are respectively the authors of the exhaustive papers on Diseases of the Blood-Vessels, and of the Lymphatic Vessels. The distinguished author of the treatment of myxœdema by thyroid gland extract, Dr. George Murray, of Newcastle-on-the-Tyne, writes the articles on Diseases of the Thyroid Gland, etc. We are a little surprised that under the head of Goitre, nothing is said of the value of cataphoresis, as long ago pointed out by Dr. Hunter McGuire, of Richmond, whose favorable experience has been confirmed by the subsequent experience of Dr. Joseph A. White (see his case in November number, 1895, of this journal). In fact, the records are so good as to encourage others to try cataphoresis of iodine, etc., according to the advices given both by Dr. McGuire and Dr. Joseph A. White. But the thyroid extract treatment of myodema, cretinism, etc., is so valuable that we may pardon the oversight of the distinguished writer, if indeed he was aware of the experiences referred to. Each of the authors of articles in this volume has a pleasant, easy style—Dr. Whitaker has the wonderful faculty of specially emphasizing those facts known to be of chief importance without in the least detracting from the other portions of the descriptions. He writes specially well for such a work.

Editorial.

The Virginia State Veterinary Medical Association

Will hold its next regular meeting in Richmond, Va., on Thursday, January 2d, 1896. The meeting will be held in Dr. Harbaugh's Veterinary Hospital, 110 and 112 South Adams street, which has had quite an addition built to it recently, and has now every facility required for the demonstration of the practical subjects which will be brought up for discussion.

We are unable to publish the programme in this issue, but are informed that subjects of local interest pertaining to infectious diseases will receive much attention. We also learn that it is the purpose of the Committee on Entertainment to arrange, if possible, for the presence of the veterinarians at a surgical clinic at one of the medical colleges.

Veterinary Notes.

The Sixth International Veterinarg Congress, held at Bern, Switzerland, last September, was a memorable Convention, not only in regard to the scientific and important nature of the work done, but especially in view of the fact that it was attended by the foremost veterinarians of Europe, as well as representatives from other parts of the world. Among those who took an active part were: Chauveau, Nocard, Cornevin and Trusbot, from France; Schmaltz, Siedamgrotzky, and Müller, from Germany; Schindelka and Aloys Koch, from Austria; Ranpach, from Russia; Bang, from Denmark; Cofe, McFadeau, and Fleming, from England; Lanzillotti-Buonsanti, from Italy; Nogueira, from Portugal, and Pilavios, from Greece. India, Japan, and Egypt, were represented. Even Roumania announced as many as 64 delegates.

It is a remarkable fact that in a body of men, from so many different countries, with as many different tongues, only two languages—German and French—were used to conduct the business of the meetings. Nearly all of the members spoke or understood either German or French, and every sentence uttered was immediately translated into the other language—either German or French—by expert translators, and by this means the greatest of Veterinary Conventions was able to satisfactorily transact business of a direct vital importance to every country in Europe, and indirectly to every nation on earth.

While the governments of all great nations were represented by their respective veterinarians, it is with a decided feeling of disappointment that we notice the absence of any representative of our own government. Truly, it may be said to be a characteristic for America to lag behind in such matters

The first meeting was opened by Potterat, Chief of the Swiss Veterinary Department, who spoke in French. Dr. Deuche, the representative of the Swiss Federal Government, welcomed the members in the name of the Government; he spoke in German. Chauveau then took the chair, and opened the scientific deliberations. The first question discussed was—

International Veterinary Police Regulations, and How Best to Frame and Work Them."—Papers on the subject by Hutyra (Hungary), Degive (Belgium), Berdez (Switzerland), and Perroncito (Italy), were read. The discussion was ended by the adoption of the following resolutions: (1) That an international service be established for reporting on infectious diseases, and that an international bulletin for cattle disease be published; (2) That a petition be presented to the Swiss Government, suggesting that it take the initiative in calling an International Conference for the purpose of establishing a code of regulations for the transit of cattle.

At the second meeting, **Mallein, the Diagnostic Agent for Glanders** was discussed. Papers were read by Nocard, Schindelka, and Forth. Nocard, of course, took the lead, and, in substance, asserted that the question had been practically settled by his own experience. The subject was warmly debated. A motion by Nocard that: (a) "Mallein is a powerful agent in settling the diagnosis of glanders when that disease is suspected; and (b) The systematic administration of mallein in the case of stock affected with glanders, is the best means of stamping out the disease," was carried. The following resolution was also adopted: "The governments of Europe are respectfully solicited to place means at the disposal of the veterinary surgeons whereby the value of mallein injections may be finally and effectually settled. For this purpose, and to prevent all disputes, it is desirable that a number of horses be provided, which shall be artificially infected with glanders and treated with mallein."

There can be no doubt that these series of tests, under government supervision, will do much toward explaining the reported failures of mallein, as it is to be hoped that

those having the supervision of the experiments will, to say the least, see that the mallein used is pure and of proper standard. Inferior specimens of mallein will give irregular results, and it is to this fact more than all others that there still remains so much difference in the opinions of those who have used the test.

At the next meeting, **Tuberculin** was discussed. Bang, of Copenhagen, was its greatest advocate. The following resolution was adopted: "Tuberculin is a most valuable diagnostic, and may render the greatest service in the struggle against tuberculosis. There is no reason to fear an aggravation of the disease by its use, and therefore no reason to warn practitioners against its general use." The following was also adopted: "The Congress expresses the wish that governments would order the administration of tuberculin in the case of herds in which tuberculosis has obtained a footing."

Of the next meeting Dr. von Ranpach (Russia) was chairman. **Protective inoculation against "Rauschbrand"** was brought up, but not discussed. **Swine plagues** were discussed, but the decision deferred. At the next meeting swine diseases were again discussed, with the result that the following resolution was carried: (a) "The two diseases, swine plague and swine fever, ought, for practical purposes, to be ranked, under one name, under diseases to be dealt with by the State; all outbreaks of either ought to be advertised, and they ought to be distinguished in official bulletins from erysipelas due to bcaillus; (b) The best means of combatting them must be left to the decision of the various countries, as much depends on the laws of the particular country and on local circumstances."

Lorenz, of Darmstadt, read a paper on **Protective Inoculation Against Erysipelas,** which was discussed and the following resolution adopted: (a) Protective inoculation is an indispensable means of combatting this disease; (b) The Congress, therefore, directs the attention of governments to inoculation, and recommends them to support efforts to introduce it, and likewise to supervise the operation and prepare statistics of the cases.

A paper on *Rabies and Inoculation Therefor* was read, but no interest in it was manifested; on the contrary, members left the meeting till the attendance became very slim. The reader of the paper, however, had a resolution carried to the effect that the Congress recommend all who are interested to examine into the conclusions reached by the author of the paper.

Physician's Visiting Lists for 1896.

Not being able to decide upon that one best suited to the taste or fancy of all our subscribers, we lay the merits of each of the *Lists* received before our readers to let them decide. Each is well bound, and has flap, pocket, pencil, etc.

P. Blakiston, Son & Co.'s Lists for 1896 appears in its 45th year of publication. Compared with former issues, more space is given for names of patients and to memorandum page; a column added for amount of weekly visits, and a column for ledger page. Lists for 75 and 100 patients also have the special memoranda pages. No List has been used for so long a time as this, which speaks volumes in its favor. Of printed matter, it has the Metric System of Weights and Measures, table for converting apothecaries' quantities into grams; dose table, based on Potter's Hand-Book of Materia Medica and Therapeutics; treatment of asphyxia and apnœa and other emergencies; comparison of thermometers, table for calculating period of utero-gestation, etc. Size for 25 patients weekly, 6x4 inches. As is known, the publishers reside in Philadelphia. Net prices: For 25 patients, $1; for 50 patients, $1.25; for 75 patients, 2 vols., 6 months each, $2; for 100 patients, 2 vols., 6 months each, $2.25.

Medical News Visiting List for 1896. Editions, weekly, dated, for 30 patients; monthly, undated, for 120 a month; perpetual, undated, for 30 and for 60 patients weekly a year. The first three styles contain 32 pages of data—date of dentition, to find day of confinement; thermometric scales, ordinary weights and measures, the metric system, examination of urine, important incompatibles, methods for artificial respiration, table of eruptive fevers, poisons and antidotes, doses of remedies more frequently administered, therapeutic reminders, ligation of arteries, etc.—and 160 pages of blanks, arranged for all kinds of professional memoranda, etc. The 60 patient perpetual has 256 pages of blanks. Seal-grain leather, $1.25. Lea Brothers & Co., Philadelphia, Pa., publishers. When desired, a ready reference thumb index is furnished for 25 cents extra. This is eleventh year of publication. Size, 6⅜x4 inches.

Medical Record Visiting List and Physician's Diary for 1896 Published by William Wood & Co., New York. Two sizes, for 30 or 60 patients weekly, as desired, and either dated for 1896 or without dates—$1.25 and $1.50, as selected. Black or red morocco leather. It has convenient arrangement, good materials, and attractive make-up. Has 30 pages

printed matter of tables, of equivalents, posology, formulæ for various purposes, poisons and antidotes, together with many other memoranda on subjects of daily practical importance to physicians.

Matters of Medical Interest to Come Before the Virginia Legislature.

Since 1871, the State of Virginia has had a State Board of Health only in name on its statute-books. Then it was composed of Drs. James L. Cabell, L. S. Joynes, A. M. Fauntleroy, J. Grattan Cabell, George Ross, John W. Lawson, and Landon B. Edwards. Removals by death and executive appointments have changed the composition of the Board to the following: Drs. Rawly W. Martin, Robert J. Preston, Paul B. Barringer, V. G. Culpeper, H. M. Taylor, P. A. Irving, and Landon B. Edwards. During each session of the General Assembly of Virginia, the various governors have made recommendations in their messages, and numerous efforts have been made by the profession to equip the Board with power and means to carry out the general objects intended by the Medical Society of Virginia in originally petitioning for the creation of the State Board; but up to the present time not a cent has been appropriated for the support of the Board, nor a single power given it beyond an advisory one—as if qualified practitioners could give up their time to meet quarterly at their own expense to discuss matters of chief importance to the citizen. Not even a postage-stamp is provided for the use of the Board under the law. And yet, at their individual expenses, the several Boards since 1871 have held a number of meetings, hoping that the common intelligence of Legislators would remove the obstacles to usefulness. Had the State Board been vested with means and authority, it would have been easy to have stamped out several of the epidemics that have occurred in different sections of the State—costing the citizens thousands upon thousands of dollars—as they have, beside saving the loss by death or permanent disablement of many. Massachusetts has found it profitable to give its State Board of Health over $100,000 a year for years past; Texas appropriates over $60,000, and thus it goes down to South Carolina, which devotes $4,000 to its State Board; and yet Virginia, in its middle territorial position as to the Atlantic coast, appropriates not a cent, nor bestows upon its Board a single authority to act. We trust the Legislature

about to assemble in Richmond will remove the stumbling-blocks to usefulness, and either confer authority to act with means to execute, or else remove the sham of a law from the statute-book. Let the profession urge the proper measures upon the law-makers. "To be, or not to be—that's the question." *Esse quam videri malim.*

No one, during the session of the Medical Society of Va., in Wytheville, last September, who heard the practical paper by Dr. Wm. F. Drewry, of Petersburg, Va., on the colonization of the epileptic insane of the State could fail to be impressed with the good sound sense and urgent importance of the immediate adoption of the measure. It commends itself on statement. The proposition is humane, is feasible, economic, and beneficial to the afflicted. No one is better advised as to the need of the State in this direction than the eminent alienist whose heart and mind are centered upon the securing of the end in view. The plan is no longer an experiment in other States—it is an accomplished success, carrying light into homes of darkness and training to usefulness the hands and minds that had been given over to idleness and dead expense.

These measures are not the pets of any political scheme. They interest alike every citizen of the Commonwealth. The unanimous voice of the Medical Society of Virginia is in their favor. So that it simply becomes the duty of doctors anywhere and everywhere in Virginia to inform their Legislators as to the purposes of the recommendations of the State Medical Society, remove the scales of ignorance from their eyes, and enable them to see that the medical profession has solely the good of the people of Virginia in view in urging the adoption of the measures suggested above.

Two Ugly Typographical Blunders in November Number

Need correction. On second line of page 883, the *subject of Dr. Hunter McGuire's Prize Essay* (to be awarded during the session of the Medical Society of Virginia in Danville next Fall) is: *The Present Status of Serum-Therapy—not* Semi Therapy.

On advertising page 54, the *Medical Examining Board of Virginia* will meet for arranging questions, *not* Monday, but *Tuesday*, May 5th, 1896, at 8 P. M.; and Examinations will begin, not Tuesday, but *Wednesday*, May 6th, promptly at 9 A. M., and will continue through Thursday.

Thyroid and Phosphate Feeding for Goitre.

The experiments upon animals by Lang and v. Trachevsky (Kocher's Assistants) have shown that long-continued thyroid feeding will diminish the size of a goitre, and bring on even a condition of atrophy so that the danger lies in abolishing the function of the thyroid. Further, v. Trachevsky has demonstrated that atrophy of the thyroid can be induced by administering phosphates. Kocher had shown that rapid improvement in Basedow's disease follows treatment with sodium phosphate. Hence v. Trachevsky concludes that the condition of the thyroid stands in close relation to the amount of phosphate in the human body. It is not hard to assume that the growth of a goitre can be definitely influenced by suitable feeding. In proof, Kocher showed two photographs of a man (before and after treatment with thyroid juice), in whom a colossal struma completely disappeared in one and a half years under purely dietetic treatment.—*Centralb. fur Chirurg.*, July 6th, 1895—*The Jour.*, Nov. 16, 1895.

Medical Examining Board of Virginia.

The next session of this Board for the examination of candidates for license to practice medicine, etc., in Virginia will be held in Richmond, beginning May 5th, 1896. All interested should address the Secretary of the Board, Dr. Benj. Harrison, Richmond, Va., or the President, Dr. Rawley W. Martin, Lynchburg, Va., for further information.

"Exposition Flyer"--To Atlanta Exposition.

The Southern Railway runs through sleepers to Atlanta every Tuesday and Thursday, leaving Richmond 7:25 P. M. on the "Exposition Flyer," arriving in Atlanta the following morning 10:25. Ten-day limit tickets sold at $12.40, good on this train. Returning, this train leaves Atlanta every Wednesday and Saturday afternoon 5 o'clock, arriving in Richmond the following morning 8:55. This train affords the Richmond public elegant service and quickest time to Atlanta. For information as to rates, time-tables, etc., call at City Passenger Office, 920 east Main street, C. W. Cecil, Travelling Passenger Agent.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 9. WHOLE NUMBER, 261.

RICHMOND, JANUARY, 1896.

Original Communications.

Art. I.—Commitment of the Insane in the Southern States.*

By WILLIAM FRANCIS DREWRY, M. D., of Petersburg, Va.,

First Assistant Physician Central State Hospital, etc.

That there is nothing new under the sun is a truism which cannot be well denied, unless, perchance, the "new woman"—that strange anomaly of this generation—should come into question. Surely, it is a notable event when a great thought is born into the world. However original an idea may at first appear to our own egotistic mental vision, when we set about to investigate, the main prop of our conceit is knocked from under us by a discovery, as it were, that some one else had anticipated us and rightfully claims priority. About all we can expect to do is to re-shape and possibly improve an old thought, dress it up, if you please, to do service over and over again. Just such remodeling and dressing up, without any effort at origi-

* Prepared for the Association of Southern Hospitals for the Insane, meeting in Atlanta, Ga.. Nov. 21, 1895. and, in the absence of the author, read by the Secretary, Dr. Babcock, Superintendent of the South Carolina Asylum.

nality, is what I purpose doing with an old, much-discussed subject: *The Commitment of the Insane.*

Ten years of actual experience in the treatment of the insane, in one of the largest asylums in our land, has afforded me, as somewhat similar experience have afforded most of you, at least an opportunity of observing the advantages and disadvantages of any rules and regulations having for their aim and object the proper management of the insane.

After a careful study of the various methods of commiting the insane in the different Southern States, I am led to the conviction that reforms, to a lesser or greater degree, are needed in almost every State from Maryland to Texas. I shall briefly view the existing laws in these several States, point out, in a general way, the bad and the good features, and then make a few suggestions regarding revisions which, to my mind, appear advisable.

In Virginia, West Virginia and North Carolina we have the rudest procedure. In these States the question of *insanity is decided by three justices of the peace,* who, in Virginia, *may* have the advice of a physician. In North Carolina and in West Virginia the law specifies that a physician *must* appear as an ordinary witness at the "trial of the alleged lunatic." In all three States it must be proven to the *satisfaction of the presiding magistrates, that the person is "insane,* is injurious to self and disadvantageous, if not dangerous, to the community," before a "warrant" can be issued to commit to an asylum.

In Tennessee, commitment of the indigent insane is obtained by one justice of the peace, who takes the testimony of competent witnesses, one of whom must be a physician. The patient may or may not be present at the inquest. *The justice decides as to insanity and orders to an asylum, if he thinks proper to do so.* In the case of pay-patients, admittance to a hospital is secured on a sworn certificate of a reputable physician, declaring the person to be insane and a fit subject of special care and treatment.

In Mississippi the question of *insanity is decided by a jury*

of six laymen, after the examination of witnesses. The examination of *a physician is not required.* The jury returns to the court, before which the alleged lunatic is tried, a verdict of sane or insane, as the case may be, and the commitment is ordered. In this State (Mississippi) there is, however, another method recognized by law, consisting of a sworn statement of three citizens, *two of whom must be reputable practicing physicians.*

In Georgia the law requires that a *jury of twelve citizens, including one physician*, shall examine by inspection the person, hear testimony, and then render a verdict in accordance with their opinion. If the person is adjudged insane, *the ordinary commits to an asylum.*

I am informed that in this State (Georgia) a pay-patient may be committed on the *certificate of three reputable physicians*, or one from such physicians and two reputable citizens, stating the cause of application.

In Texas and in Kentucky a person is adjudged insane *by a regularly impanelled jury and committed by a Circuit or County Court judge.* The proceedings are practically the same as in criminal cases, the Commonwealth being represented by the regular prosecuting attorney, and the person whose mental condition is in question, by counsel appointed by the court. In *Texas* a medical witness is required. In *Kentucky* the individual who is thought to be insane, must be present in court during the proceedings, or there must be presented an affidavit from two physicians certifying that they have personally examined the "defendant," and that he is insane, and that his condition is such that it would be unsafe to bring him into court.

In South Carolina a Circuit judge or Probate judge secures all available information from competent witnesses regarding the person supposed to be insane, and also a certificate from two physicians, whom he selects, bearing on the person's mental health, and then *orders the commitment, if he* (the judge) *is satisfied that insanity exists.*

In Missouri indigent patients are admitted to the asylums on an *order from the County Court judge.* Pay-patients

are admitted on the *certificate of two physicians*, sworn to before a notary.

In Louisiana and in Florida, upon the petition or complaint of any person, the sheriff brings an alleged lunatic before a *Parish or Circuit Court judge, who, unaided by medical witnesses or opinion, pronounces upon the mental state* of the said person, and, if thought to be insane, commits him to an asylum. In the former State the Board of Administrators of the Asylum are authorized by law to admit insane persons without an order of the judge.

In Alabama a person cannot be received into the State Hospital for the Insane except *through the order of a Probate judge*, who, to ascertain insanity in any given case, shall call to his aid at least one physician in good standing, and other witnesses, and "investigate the facts of the case, either with or without the presence in court of the person whose sanity is in question, according to his discretion." If the judge, or the jury, if there be one, believe that satisfactory evidence has been adduced to show the person to be insane, the jury commits him or her to the State hospital at Tuscaloosa.

In Maryland patients may be committed either *upon the certificate of two qualified physicians or upon an order of the Circuit Court* for a county, or the Criminal Court of Baltimore city. The law also provides that any person, being advised by his attending physician that he is insane, *may voluntarily commit himself* to an asylum for a limited time.

It will be observed that in many of our Southern States, there is still retained on the statute books, laws embodying the essential features of the original "act for the apprehending and punishing of disorderly persons." This old Vagrant Act of 1744 reads thus:

"Whereas, There are sometimes persons who, by lunacy or otherwise, are furiously mad, or are so far disordered in their senses that they may be dangerous to be permitted to go abroad; therefore be it enacted that it shall and may be lawful for any two or more justices of the peace to cause to be apprehended and kept safely

locked up in some secure place, and if such justices shall find it necessary, to be there chained, if the last place of legal settlement be in such city, or within any town within such county."

The methods of adjudging and committing an insane person, enumerated above, are, in most instances, simply modifications, in different stages of improvement, of the vagrant act, and, consequently, more or less out of harmony with the present advanced state of knowledge of the pathology, the symptomatology and the treatment of mental diseases.

The idea that judges of law, justices of the peace, juries of laymen, and the like, have to decide upon one of the most important and oftentimes dfficult questions in medical science, is simply ridiculous.

The less the method assimilates to the proceedings againt criminals, and the more it recognizes the fundamental necessity for medical decision, the more just, the more humane, the more scientific is the method.

The ideal mode of commitment is that in which reliance is placed wholly and entirely in medical opinion. This ideal is nearest approached in some of the methods in Maryland, Mississippi, Missouri and Georgia; while in Virginia and one or two other States we are farthest removed from the correct method, though in those States where the decision rests with a jury or judge, there is no very marked improvement over the Virginia law.

Commencing in the time of Pinel, the elder Tuke, and our own Rush, a gradual evolution of professional and public opinion towards a higher and more rational conception of the true nature of insanity and the rights of the insane has taken place.

Insanity is now regarded as "a physical disease, which affects and controls abnormally the language, conduct, and natural characteristics of the individual." *That the insane are sick people, who are entitled to the kindest consideration and management and treatment by the best medical skill attainable is a fundamental principle that should guide us in all matters concerning them.*

New and wonderful truths are being developed every day, and our knowledge of mental phenomena, normal and abnormal, and of the wisest methods of dealing with the insane and of managing hospitals, is growing apace.

In recent years the insane have been the recipients of more attention at the hands of public philanthropy than any other class of defectives in our midst; still the public mind needs to be educated to a more advanced conception of the disease—insanity—and of institutions for the care of the insane. But just so long as we retain the old cumbersome legal criminal processes of adjudging one insane, will the public be impressed with the erroneous idea that asylums are simply places of restraint and imprisonment.

If we would correct these false notions that possess people generally respecting the insane, we must take out of the hands of laymen and remove from the criminal courts the matters of adjudging and committing, and place them entirely within the domain of medical science, their legitimate place.

With increased enlightenment of legislators and a manifestation of more concern on the part of those directly interested in the welfare of all sick people, especially the insane, a better code of commitment laws would unquestionably be enacted.

It is a well-known fact that whenever legislative bodies have ignored the dictates of popular prejudice and ignorance, and placed proper confidence in sound professional judgment, there has been no difficulty in enacting adequate laws regulating the commitment and detention of the insane.

In my own State of Virginia a strong effort is being made by us who are specially interested in this important matter, and we are of one mind in the belief that medical decision should form the basis of whatever revision may be made in the rude procedure now in vogue there. In my recommendations before a special legislative committee,* I suggested a law embodying the salient points of the laws as they exist in New York, Massachusetts, Maryland and other

States where the most advanced ideas regarding insanity and the insane prevail. My suggestion was to substitute for the present law the following:

"Resolved (the Senate concurring), That so much of Governor McKinney's late message as refers to the admission of patients into the insane hospitals of the State * * * be referred to a committee of three members of the House of Delegates, and two of the Senate, who shall report thereon to the next General Assembly."

Any person who suspects another in his county or corporation to be insane, shall notify two physicians, in good standing, who shall, under penalty of the law, make, within forty-eight hours, a personal examination, either jointly or separately, of the alleged insane person, at his place of abode, and of all necessary witnesses, and certify their opinion regarding the said person's mental condition, and whether or not the said person needs treatment in a hospital for the insane. This certificate shall have been made and transmitted to the judge of a court of record in the county or corporation in which the patient resides within ten days succeeding the examination and within thirty days of the time of admission to a hospital or some other place of treatment. The judge to whom the certificate is transmitted shall certify to the good character and qualifications of the signers, and of his approval to their verdict (so far as the legality is concerned), and furthermore, he shall cause to be recorded in the clerk's office an attested copy of the certificate, and the original or a copy thereof to be sent to the superintendent of the State hospital in which it is designed to have the patient treated.

The certificate above provided shall be in form and substance as follows: (Much of this form of certificate is taken from the one used in New York State, and from the one proposed by Dr. Stephen Smith as a uniform certificate for all the States).

State of....., county of....., City or Town of....., to wit:

We,..... and..... residents of....., county of....., State of....., being severally and duly sworn, do severally certify, and each for himself certifies, with the exceptions herein noted, as follows:

I. I am a graduate of....., an incorporated medical college at ....., in the State of.....; I am in the actual practice of medicine in.....; am a resident citizen of the State of.....; am in no

*Refer to Journal of the Senate, page 575, session of General Assembly 1893–94:

way connected with any hospital for the insane; am not related by blood or by marriage to the patient named in this certificate.

II I examined personally on the.....day of..., ..., a resident of the county of....., State of.....

III I obtained the following information, which I believe to be correct:

I Age....., sex....., color.....where born ....., occupation....., number of children had....., number of abortions....., education..... reputed property of self, of husband, of parents (if patient is a minor) ..... name and address of guardian or of nearest friend..... name of person or persons who applied for this certificate..... .

2. When did present attack of insanity begin? ..... Was it gradual or sudden in its onset?..... Number and date and duration of previous attacks? .....
.....

If patient was ever an inmate of a hospital for the insane or a poorhouse, state when and where, and whether discharged as recovered or otherwise.....
.....

3. What are the present indications of insanity... .....
.....

Are the symptoms continuous or are they periodical?..... If periodical, what length of time intervenes between the attacks?..... .. Does the derangement seem to increase, diminish or remain stationary? ..... Is the patient violent, destructive, excited, depressed, homicidal or suicidal? .....
.....

Does ...he suffer from insomnia, and to what extent?..... Is ...he filthy or cleanly in personal habits and dress?..... .....

4. What is the bodily condition of the patient?..... Has ...he had any serious injury or illness ..... Has ...he any acute or chronic disease, and what is its nature? .... D es her insanity seem to bear any relation to the catamenia or the climacteric?..... Is her menstrual function normal?.....

5. Is the patient subject to epilepsy, catalepsy, or fits of any kind? Explain.....
.....

6. Is the patient addicted to any immoral or vicious habits, and what are they?.....
.....

What are h... habits as to the use of intoxicating liquors, tobacco, opium and other stimulants or narcotics?.....
.....

7. If any of the patient's family or near relatives have ever been insane, mentally or physically or morally defective, state the fact and the degree of consanguinity, and whether paternal or maternal, the nature of the disease or defect, etc.....
.....

8 Other facts in the personal and family history of the patient, known or communicated to me by others, indicating insanity, or a neurotic tendency.....
.....

9. What do relatives or friends think the cause or causes of the patient's insanity?.....

10. What is your opinion regarding the cause or causes?.....
.....

IV. As a result of my examination I find and hereby certify to the fact that said.....is insane, and a proper person for care and treatment in an institution for the insane, as an insane person under the provisions of the statute.

I have formed the above opinion upon the following facts, viz:
.....
.....
.....
.....

V. The answers to the questions contained in the foregoing statements are true to the best of my knowledge, information and belief.

....., M D.
....., M. D.,

Severally sworn and subscribed before me this.....day of..... 18...
.....
.....

I,....., a judge of....., which is a court of record of the State..... do certify that the foregoing medical certificate is genuine, and that the signers, Drs ....and.. .... are legally qualified physicians of good standing and repute, and that I approve the commitment of.....to hospital for the insane.

.....
.....
....., 189...

[The judge's certificate is not intended to apply to any medical question, but only to the legality of the proceedings.]

Should the verdict of the physicians in any case be unsatisfactory, a "trial by jury" should be granted the person "suspected of insanity."

In conveying a female patient to a hospital for the insane, it should be required by law that a female attendant, or the husband, brother or father, should, in every instance, accompany the patient. The reasons for this are obvious.

Some of the advantages of the method of commitment of the insane which I herein propose, are as follows:

1. It recognizes the fundamental principle which should underlie all dealings with the insane, viz: that insanity in any form whatever, is a disorder or disease of the human organism which can be understood *only* by competent medical men.

2. It insures the earliest possible treatment, which is a very great advantage, for it is well-known by experienced alienists that the chance of recovery from insanity is in inverse ratio to the duration of the disease. Surely the best chance for recovery is when the disease is in its incipiency, before it has taken a set, as it were.

3. It obviates undue publicity and red-tapeism, which are irritating to the patient and humiliating to the relatives and friends, and affords a quiet and speedy commitment to that special care and treatment so urgently demanded. An unenviable stigma always attaches to any form of legal process.

4. It has a financial advantage, first, to those directly interested, in that proper treatment would obtain earlier, thereby enhancing chances of restored health and productive labor, and preventing, as far as possible, curable cases from becoming chronic and hopeless; secondly, to the State, in that the expense attached to the examination and commitment would be less than that of trial by jury or by magistrates. And, furthermore, the State would have fewer incurable cases to support.

5. It recognizes both medical and judicial sanction; and while giving the patient the best chances for restoration to health, it affords him ample protection against injustice, in that every possible safeguard is thrown around him to prevent illegal commitment or detention. There is, however, never that danger of incarceration of sane persons in insane hospitals, that sensationalists would have us believe.

The statement of the Earl of Shaftesbury, for fifty years chairman of the English Commission in Lunacy, made before a committee of Parliament in 1877, ought to satisfy any one on this point. Hear what this distinguished authority says:

"I am ready enough to believe that when temptation gets hold of a man's heart, he is capable of doing anything. But I am happy to say that Providence throws so many difficulties in the way of these conspiracies that I believe conspiracies in ninety-nine cases out of a hundred to be altogether impossible. The number of certificates that have passed through our office since 1859 amounts to more than one hundred and eighty-five thousand (185,000), and of all those certificates I do not think so many as half a dozen have been found defective. I am quite certain that out of the 185,000 there was not one who was not shut up upon good *prima facie* evidence that he ought to be under care and treatment."

And Dr. Blumer, of New York, a recognized authority in matters pertaining to the insane, says:

"No superintendent could have any motive to connive at an improper commitment, and, even assuming the possibility of a corrupt official at the head of an institution, any conspiracy would have to involve many others, both inside and outside of the institution."

If these random thoughts which I present to the profession, have the effect of leading to any improvement in the line of a better and more humane, more rational and scientific method of committing the insane, I shall consider myself richly compensated.

It behooves this Association of Southern alienists to exert its influence in all things that have any bearing on the welfare of the unfortunate insane; so I trust this proposition to amend our lunacy laws wherever they are not abreast of the most advanced scientific methods, will meet with favorable consideration.

Art. II.—Battey's Operation.*

By JOSEPH TABER JOHNSON, M. D., Washington, D. C.

Honorary Fellow Medical Society of Virginia, etc

On the 17th day of August, 1872, Dr. Robert Battey, of Rome, Ga., startled the world by describing a new operation for the removal of normal ovaries, for the purpose of bringing on an artificial and premature change of life. The patient upon whom Dr. Battey performed this operation had been under his treatment for a number of years, on account of pain and many incurable reflex nervous symptoms, which accompanied her monthly periods. All other means of treatment having failed, he reasoned out his plan of removing the ovaries, in the hope that an earlier change of life would cure his patient.

His theory was, if the ovaries should be removed, there would afterward of necessity be a cessation of ovulation; and if there was a suspension of ovulation there would be as a consequence a cessation of menstruation, and if the menstruation could be prevented or cut off altogether, the pain and nervous symptoms of the suffering woman would be relieved, and she would be henceforward cured. It was not his purpose simply to remove these organs, on account of any supposed disease, but to bring on an artificial "change of life." The operation fortunately succeeded, and the patient was relieved from her troubles.

He described his method before medical societies and in medical journals, and soon afterward a number of his friends and others followed in his footsteps.

The operation was subsequently greatly abused; ovaries were removed which might, by patient and persevering treatment, have been cured. An outcry arose in the profession against what was called an unnecessary and indiscriminate sacrifice of these important organs. And on account of this revulsion in feeling, to a great extent, Bat-

*Read before the Washington Obstetrical and Gynæcological Society, October, 1895.

tey's operation—that is, the removal of normal ovaries—fell into discredit.

Other operators described this same proceeding under the name of "spaying;" others still as "castration;" others still, when both the tubes and ovaries are removed, spoke of it as the "removal of the uterine appendages;" but this last name has been reserved for the operation when it has been performed for the relief of chronic inflammatory diseases and their complications.

Hegar performed the same operation, with the same object in view, in July, 1872, but as his patient died, he did not publish his views.

Lawson Tait also operated in August, 1872, for the removal of the ovaries and tubes for the purpose of arresting the hæmorrhage and the growth of a fibroid tumor, but did not publish his case until after Battey.

Trenholm, of Montreal, also operated soon after Battey—doing the same operation, but with altogether a different object in view.

Notwithstanding the fact that these operations by Hegar and Tait and Trenholm had been performed on Battey's statement of the effect of the operation on the woman, yet the cause of the operation, and also the particular effect to be produced, were altogether different from those sought to be produced by Battey in his first case.

The field of this operation rapidly widened until too many operators were removing ovaries for the purpose of allaying pain, and checking a large variety of nervous symptoms which seemed to cluster around and to culminate at the monthly period, until, as above stated, after a number of years there was quite an outcry in the profession against this too wholesale mutilation of women, as it was called.

The pendulum has now swung so far in the other direction, that at the present time Battey's operation, for the relief of reflex nervous symptoms and pelvic pain, is rarely performed. It was gradually found on investigation that all patients who had been operated upon for the relief of

such symptoms were not cured; some were only relieved for a short space of time, as they might perhaps have been by any other radical measures, which might have produced a marked and sudden effect upon their nervous systems. Occasionally these patients come back to the operator, or more likely to some other doctor, with their aches and pains as bad as ever.

The removal of the ovaries and tubes for the arrest of hæmorrhage and the checking of the growth of fibroid tumors, stands on a much more firm foundation. Experience has shown that the expectations of operators in this class of cases has been generally realized. It is a very successful operation primarily, and the effect has been such as to greatly encourage those who are operating in this direction.

After fibroid tumors have attained considerable size, and have acquired other vascular supply through adhesions, it would be unwise and useless to do Battey's operation, as the blood supply, which we cut off by tying the ovarian arteries, would not deprive the tumor of its nourishment sufficiently to check its growth or prevent hæmorrhage. But when these tumors are no larger than a cocoanut or a child's head, this operation has proven itself in numerous instances to be one of the most successful means of dealing with this very troublesome and anxious class of cases. The immediate mortality of the operation should not be above 3 per cent.

The writer has performed this operation in thirty-four instances on account of fibroid tumors, and all but one of the cases, so far as heard from up to date, have had the most gratifying result in arresting the hæmorrhage and checking the growth of the tumors. There was no death in this series of thirty-four cases.

There have been a number of cases reported, however, where an attempt has been made to remove the ovaries upon Battey's, or Hegar's, or Tait's theory, and the effort has failed on account of their attachment to the side of the uterus or tumor to such an extent that such free and other-

wise uncontrollable hæmorrhage was produced by their separation as to render hysterectomy necessary in order to save the life of the patient on the table. Surgeons, therefore, doing this operation should be prepared to perform hysterectomy if the necessity should arise. In his series of thirty-eight hysterectomies, Keith found it necessary to terminate three operations begun for the removal of the ovaries by supra-vaginal hysterectomy.

Speaking of the results of this operation, it is necessary to state that there are a certain number of failures to cure, and that they occur in about the same proportion of cases in which the change of life fails to check the growth and hæmorrage of fibroid tumors.

Recent investigations have shown the effect of the menopause to be much less than was formerly taught. In presenting the claims of this operation to patients, this possibility of failure should be mentioned. It might aid in a final decision between oophorectomy and hysterectomy.

Battey accounts for the continuation of menstruation after his operation, on the theory that there may be a third ovary. He stated to me on one occasion that he had written to a large number of demonstrators of anatomy in different parts of the country, and to coroners who make post-mortem examinations, requesting to be informed of the results of their post-mortems so far as they related to the discovery of a third ovary; and he stated that his answers to these interrogations demonstrated the fact that in about 5 per cent. of the autopsies there was a third ovary found. And as his experience showed that menstruation in these women in whom the ovaries had been removed kept on in five per cent. of his cases, it was quite probable that these women possessed a third ovary.

Dr. Arthur Johnstone, of Cincinnati, in common with most surgeons, accounts for the continuation of menstruation by the failure of the operator to remove all the ovarian stroma and the entire Fallopian tube. They believe in cases where the periods continue, enough of the ovaries and tube are left behind to keep alive the menstrual habit.

Johnstone lays special stress however upon the presence of a ganglion of nerves near the point of departure of the tube from the uterus, which is, to a large extent, he states, the cause of menstruation. Failure to remove, or tie off this nerve, permits the continuation of the monthly flow, even if the ovary and the greater part of the tube have been removed.

The liability of a long tubal stump to permit fluid collections of pus, mucus, or blood, emphasizes the necessity for their more complete removal than was formerly believed necessary.

By tying off the uterine appendages close up to the *cornua* of the uterus we do a more complete operation and will do all that we can, to prevent further disease in the tubal stump, and will thus save ourselves chagrin and our patient the annoyance of seeing the menses continue after we had promised that they would disappear.

Recently the operation has been performed with considerable success in cases of menstrual insanity. The writer has had two most remarkable cases, one of whom was taken from an insane asylum, the superintendent of which stated that "she was incurable by any methods under his control, and was a proper subject for Battey's operation." In both these cases the operation was done for the purpose of removing normal ovaries. They were found, however, to be greatly diseased, although the extent of the disease had not been previously recognized.

The operation was done only for the purpose of bringing on a premature and artificial change of life, in the hope that this enforced cessation of the menstrual flow would do away also with its attendent nervous and insane phenomena.

In one of these patients the transformation from a driveling disgusting lunatic, hopelessly confined behind the locked doors of an insane asylum, to a charming and beautiful lady is little less than marvelous. The gratitude of the patient and her family is simply boundless.

In the second case referred to, and in quite a number of

others within the personal experience of the writer, it is believed that patients were not only saved from the insane asylum but from self destruction.

Goodell, Price, and other gynecological surgeons, have reported similar cases. The menstrual *molimen* abolished, its accompanying nervous and mental symptoms disappear also.

So far as at present known, the relief in the cases above referred to has been permanant.

The outcry in the profession against this operation was based on two grounds. First, that it did not cure all the patients permanently of their reflex nervous symptoms, pelvic pains, etc., and, secondly, that it was a horrible mutilation of the sex; and for these reasons, if for no other, it should be condemned.

The restrictions thus placed upon this operation, have gradually narrowed it down, until now Battey's operation is confined to a very limited field. Its abuse, by unwise and incompetent operators, had a still further effect in this direction.

Increased experience has shown that many of the dysmenorrhœal and nervous patients can be cured by appropriate treatment very much oftener than we formerly supposed. The sentimental cry about unsexing and mutilating, should have little influence upon the surgeon, in as much as the unsexing is done already by the disease which we operate to cure, making it impossible that the desire for offspring should ever be realized.

If oophorectomy were only done for the premature production of the menopause upon Battey's theory, in the practice of which he and others removed normal ovaries, this objection might apply; but in this day of improved practice, a surgeon who presents normal ovaries to a medical society has to show very good cause for his operation to escape censure.

If ovulation and conception are unobstructed by disease, the operation should not be done.

If the ovaries are sufficiently diseased to require removal to save life or reason, conception and child birth are thereby rendered impossible. The woman is unsexed or sterilized by the diseases, and the surgeon who wards off death or insanity by his timely operation does good work—the sentimental objection to which is nonsensical, and should deter or influence no conscientious operator.

Still another objection is brought against Battey's operation, on the ground that the nature of the female would be so entirely changed by the removal of her ovaries that all sexual desire would be abolished. Examination of a sufficiently large number of cases has been made to show that this result is an exception and not the rule. These women are improved by this operation in their personal appearance, and unchanged as a rule in their sexual natures. Goodell says: "They are just as womanly and just as womanish after this operation as they were before."

In two cases operated on by the writer, the women married later on, and their husbands stated to him that their lives were blissfully happy. In another case the wife was completly changed after the removal of her diseased ovaries. Formerly she loathed and finally refused all sexual intercourse, largely on account of the pain it produced, and the fear also of having children. After the operation having, neither pain nor fear, she became aggressive in her demands for sexual gratification.

In very few cases husbands have complained that their wives have gradually grown colder, until finally all sexual desire and pleasure were lost. This, however, is the exception and not the rule.

As the technique in abdominal surgery approaches nearer to perfection supra-vaginal and pan-hysterectomies are likely to supercede oophorectomy for relief of fibroid tumors, and also for other incurable diseases of the uterus or endometrium.

The removal of the ovaries and tubes as shown above frequently fails to entirely cure, when associated with a fibroid or otherwise diseased uterus. The patients are not

all free of subsequent uterine displacements, hæmorrhages, discharges and pains.

The uterus is certainly of no use or value after its appendages are gone; and the conviction is rapidly growing among operators that in cases where oophorectomy is advisable and indicated, hysterectomy is the more radical and preferable operation.

The mortality of hysterectomy is approaching so near to that of ovariotomy in expert hands that quite a number of gynecological surgeons are already advocating this practice.

In cases free from dangerous adhesions supra-vaginal hysterectomy by the method described, and very successfully performed by Dr. Baer of Philadelphia, is an easy, comparatively safe, and ideally correct operation. The complete removal of the uterus in these cases is advocated by Krug, Polk, Edebolds, Mann, Gordon and others.

On account, however, of the longer time required and the greater and unnecessary destruction of the pelvic arch and the shortening of the vagina, the writer believes that Baer's operation better fulfills the indications presented, than pan hysterectomy in *non* malignant cases. He may be influenced, however, by the fact that he has done 18 Baer operations with one death, while his only complete removal of the fibroid uterus, which was also cancerous, died.

In all cases where the tumor or uterus is malignant the cervix should be completely removed along with the body of the uterus and tumor.

If dysmenorrhœa is to be cured by dilatation, curetting, irrigation and drainage; if the nervous and painful ailments are also cured by mechanical supports and improved operative aseptic technique, and if hysterectomy gradually takes the place of oophorectomy, the heretofore broad field for Battey's operation will shrink down to a narrow lane.

There will still remain, however, certain bad cases of otherwise incurable ailments, such as menstrual epilepsy, menstrual insanity, too free, too frequent and too painful menstruation, where Battey's operation may be the only cure. The menstrual molimen may be accompanied by

such a stormy train of symptoms as to make a mental and physical wreck of the sufferer. After exhausting other methods of relief, including the element of time, Battey's operation may completely remove the cause of the trouble.

It is also indicated in those rare cases of congenital malformation where active ovaries exist, and there is either an infantile uterus or none at all. Ovulation proceeds normally enough, but the impossibility of menstruation taking place, or occurring vicariously, may require that even normal ovaries should be removed.

The results of Battey's operation should be very good so far as its mortality is concerned. Indeed there should be no mortality whatever in removing non-adherent appendages free from abscesses.

The writer has been in the habit, however, of stating to patients and their friends, that the average failures to cure from the work of all operators amounted to about 10 per cent., that is, that 3–5 per cent died and 5 per cent. either continued to menstruate or were otherwise uncured or made worse by the operation. They may suffer more afterwards by the formation of painful adhesions or from a ventral hernia than they did before. In the hands of the most expert operators these failures and bad results are greatly lessened in frequency and should not occur at all. With some unruly patients, and in some unclean environments, perfect results are unattainable by the best operators.

For a description of the technique of this operation, readers are referred to chapters on ovariotomy.

Some points of difference of opinion or methods may, however, be referred to, such for instance as the length of the incision, the time consumed, the unnecessary handling and exposure of the viscera, amount of ether absorbed and less liability to hernia.

In doing Battey's operation, the incision in the abdominal wall should not exceed two and a half inches. An opening large enough to admit two fingers, without bruising the parts, is all that is required. General surgeons often err in this particular by bringing their long incisions

and rough manipulative methods into this special field of work. The writer has witnessed operations where a wound of five or six inches was made, one whole hand put in, and then the other, and the intestines let out—all unnecessarily.

Time is an important element in all abdominal operations. The longer the incision the more time it takes to make it and to close it.

The risk of intestinal protrusion is increased with the long incision, and many unnecessary elements of danger are added to the operation, such for instance as the possible kinking of intestines from hasty attempts at replacing after protrusion.

All handling and exposure to the air of the intestines, even though they may be covered with hot towels, increases the tendency to shock and subsequent adhesions and obstruction of the bowels. This should and can be avoided. This risk is greatly lessened by the short incision. By a two to three inch wound, a quick, clean operation, the quantity of ether absorbed is lessened, and the danger of ventral hernia minimized. It is idle talk to claim that subsequent hernia is no more liable to occur in a six-inch incision than when it is only two inches long.

It is clearly our duty to promote in every possible way a quick and permanent convalescence. Too many successful cases of two inch incisions have been reported by Battey, Price, Tait and others with a mortality of less than 3 per cent. to permit of argument on this point. It has passed beyond controversy.

The same rule might with advantage apply to the kindred operation for appendicitis, except, as in Battey's operation, done for big abscesses with adhesions.

The writer recently saw a weak cicatrix seven inches long made by a distinguished general surgeon for a recurrent catarrhal appendicitis. There was no pus, and there were no adhesions to contend with, but it was this surgeon's *rule* to make free, generous incisions in all his cases. The patient, a doctor himself, is now compelled to wear a

truss over the upper third of the wound, which was unnecessarily made.

An opening half or one-third as long would have done just as well; the appendix could as easily have been found and tied off; the time of the operation and of the patient under ether shortened; the danger of shock, adhesions, obstruction of the bowels and ventral hernia lessened.

1728 *K Street.*

ART III.—**Clinical Lecture. (I.) Strangulated Umbilical Hernia—Resection of Intestines, etc.—Murphy Button—Recovery. (II.) Large and Old Epithelioma of Forehead—Thermo-Cautery. (III.) Potts' Disease of the Spine—Cold Abscess—Iodoform Injected. (IV.) Vesical Calculus—Bigelow Lithotrity. (V.) Varicocele—Bennett Henry Method—Successful*.**

By STUART McGUIRE, M. D., of Richmond, Va.,

PROFESSOR OF PRINCIPLES OF SURGERY IN THE UNIVERSITY COLLEGE OF MEDICINE; SURGEON TO THE VIRGINIA HOSPITAL AND TO ST. LUKE'S HOME FOR THE SICK.

Gentlemen: The first case I show you is one from my private practice, and one which illustrates the fact that desperate surgery is not always reckless surgery.

CASE I.—*Strangulated Umbilical Hernia.*—I first saw this lady six months ago in consultation with Dr. J. N. Ellis, of this city. I found her suffering with nausea, vomiting, and severe colicky pains in the abdomen. Her bowels had not moved for three days, and there was a swelling beneath the umbilicus about the size of an orange. I diagnosed the case *strangulated umbilical hernia* and advised an immediate operation. She was removed to the Retreat for the Sick, and as soon as the necessary preparations could be made, she was placed on the table, and the sac of the hernia opened. I found it contained a coil of small intestines and a mass of omentum. When the ring was cut and the contents drawn out, sixteen inches of the gut, and a large piece of omentum were found to be gangrenous. I resected the dead portion of the intestine, and approximated the

*Clinical lecture delivered to the class of the University College of Medicine in the Amphitheatre of Virginia Hospital, November 12, 1895.

ends with a Murphy's button. I next ligated and removed the omentum, and made the toilet of the peritoneum. I then cut away the hernial sac, freshened the margins of the ring, and sewed them together, and finally closed the external wound with fine stitches The patient made a speedy recovery; she suffered no pain, had no rise of temperature, and never gave me any anxiety. Her bowels moved spontaneously the third day, and the button was passed the twentieth day. You see now, when I expose her abdomen, that nothing remains to show that she has been operated on, save a red line, a scar, where the umbilicus should be. The patient reports that despite the loss of more than sixteen inches of her digestive apparatus, her appetite is good, her digestion perfect, and her bowels move regularly.

CASE II—*Large Epithelioma of Forehead.*—The next case to which I invite your attention is that of a man with a large *epithelioma on the side of his forehead.*

This case has been neglected so long, that I am doubtful whether the measures I will resort to will be of any permanent good. The patient tells me that the growth com menced nearly twenty years ago. At first it was not larger than a pin's head, and covered with a dry scab; this was incidentally brushed off, and a new scab came, which was a little larger. At first he paid no attention to it, but finding it steadily increased in size, he became alarmed, and as people in his condition often do, consulted a quack. From this time on, he was their victim, going from one to another, applying lotions, pastes, and plasters, and steadily getting worse.

You see now, that although the growth has not extended deep down into the tissue, its superficial surface is great, and that it measures four inches in one diameter and three in the other. Were the growths less extensive, and did I have more hope of being able to completely remove it, I would do a plastic operation, and after having excised the diseased tissue, cover the denuded surface with skin from some neighboring part; but as I fear that what I am going to do, while it will relieve the pain, and check the rapidity of the growth, will be of only temporary benefit, I will not resort to such a tedious process, but will *cauterize the growth with a thermo cautery.* I do this slowly, having the knife heated only to a cherry heat, and you wil observe there is scarcely any loss of blood. First

marking the boundaries of my burn, I then proceed to thoroughly cauterize the whole growth. Having finished, I apply a wad of cotton sufficient to cover the burnt surface, saturated with a ½ per cent. solution of chloral hydrate. This will be changed by the nurse as often as it becomes soiled. I will watch the wound carefully, and should healthy granulations appear, they will be carefully nursed. Should the cancerous cells begin to proliferate, I will attack them anew with the cautery. I fear, however, that the case has gone too far to be amenable to surgery, and hope it will be an object lesson.

Epithelioma of the skin are growths, which if completely removed when small, will not recur. Irritants and caustics do harm; excise them with the knife, or burn them out with a red-hot iron, and in doing this, be sure that your work of destruction is complete.

CASE III—*Potts' Disease of the Spine—Ankylosis—Cold Abscess—Aspiration—Iodoform Injected.*—The next case is that of a boy who has been sent in from the Dispensary. I have not had an opportunity to examine him, but will do so now.

A single glance at his back shows that he has *Potts' disease of the spine*, and is, therefore, a victim of tuberculosis. Ankylosis of the bone seems to be pretty complete. Low down in the lumbar region you see an enlargement; it is a *chronic or cold abscess*, and threatens to open spontaneously. Observe well its characteristics, for the introduction I give you will be frequently presumed on in the future, and you may have many calls to recognize it as an old acquaintance. There is little pain, heat, or redness connected with this form of abscess. There is, however, great swelling, and decided fluctuation. These symptoms, together with the history of the case, make the diagnosis positive, and there is no need to resort, as is often necessary, to the aspirator to determine the nature of the trouble.

Now, how shall I treat it? The primary cause of the abscess is tubercular osteomyelitis. If the anatomical location of the disease was favorable to surgical interference I would make a free incision, and endeavor to remove it. Here, however, it is situated in the bodies of the dorsal vertebræ, and is inaccessible. An incision would not enable me to remove it, and the operation would expose the patient to the danger of infection, which would be followed by chronic suppuration and hectic fever.

I will show you a treatment for the condition, which is not attended with danger of secondary infection, and one which in my hands has yielded most gratifying results. The skin over the abscess is rendered aseptic, and a few drops of a 4 per cent. solution of cocaine is injected at its most prominent part. I take a trocar and pass it several times through the flame of an alcohol lamp to render it aseptic, and then cool it by placing it in a basin of sterilized water. I now plunge the trocar into the abscess, and you see the milky fluid which it contained, flowing through the canula; a little gentle pressure makes it run faster, and the abscess is now empty. You see it held nearly a pint of liquefied tubercular matter. I next proceed to wash out the cavity, and do this by filling it several times with an antiseptic solution. At last the fluid returns fairly free from *debris*. The solution I employ is made by adding to sterilized water enough tincture of iodine to give it the color of sherry wine. It is easily prepared, and is exceedingly useful when a reliable non toxic antiseptic is required for irrigation. I next inject through the canula four drachms of a 10 per cent. solution of iodoform in glycerine, and then withdraw the canula, and seal the hole with a small piece of cotton wet with collodion. Finally, I manipulate the parts gently to diffuse the iodoform emulsion over every part of the surface of the cavity. I have removed the tuberculous pus which filled the abscess; I have washed out the cavity with an antiseptic solution, and thus destroyed many of the microbes it contained; and lastly, I have injected and left in the cavity a solution of iodoform—a drug, which has a potent power to inhibit the growth of the bacilli of tuberculosis.

In two weeks I wish this boy to return, as by that time the abscess will probably be again partially filled with fluid, and the process which I have just completed will be repeated. Each time it is done the abscess will be found to be diminished in size, and after four or five treatments I am confident it will be cured.

Case IV.—*Stone in Bladder Crushed with Lithotrite—Bigelow's Evacuator—Recovering.*—The next patient I show you is one on whom you saw Dr. Hunter McGuire operate, three days ago, for stone in the bladder. You remember he removed it by crushing it with a lithrotrite, and then

washing out the fragments with Bigelow's evacuator. The patient has suffered little or no pain, and has not had a bad symptom. As you see, he is able to walk, and will return to his home to-morrow. I show him to impress upon you the usefulness of this method of operation in selected cases. If the stone be small, if the stone be soft, and if the urethra be large enough to admit the lithrotrite, this is the operation which should always be done.

CASE V.—*Varicocele—Bennett Henry Method of Treatment.* The next case is one of varicocele, and I have purposely kept it for the last, as I was afraid that if I attempted the operation earlier, I would consume so much of my hour that I would not have time to show the other cases. I will not be able to discuss the disease, but will simply describe the steps of the operation, which I propose to show you. It is a combination of the essential features of the methods of Bennett and Henry, and consists of three different steps. *First*, in the ligation of the enlarged veins at two points, and the excision of the mass between the ligatures. *Second*, in sewing together the stumps, which have been made, thus shortening the cord. *Third*, in curtailing or shortening the scrotum, thus making it fit snugly, and resume its function of a natural suspensory bag.

The patient has been carefully prepared, and the parts which I handle are scrupulously clean. I make an incision through the scrotum directly over and parallel with the left spermatic cord, and expose it for two inches of its length; I search carefully until I find the spermatic duct, and push it backwards out of the way. I then, with an aneurism needle, pass a silk ligature around the enlarged veins at the upper angle of my incision, and another suture around the veins at the lower angle of my incision. I tie each tightly, and with a pair of scissors cut out the veins between them. The two stumps are next brought together, and fastened by two stitches, one on each side. The opening in the scrotum is next sewed up with a continuous suture of cat-gut. The first two steps of the operation have been finished. I next turn my attention to the scrotum. To retrench it I employ a clamp devised by King, and known as King's scrotal clamp. This instrument is applied from

above downwards, and the scrotum drawn through its blades. Care should be taken to depress it well towards the perineum, and to have the raphe of the scrotum in the middle line of the condemned tissue. The clamp is then tightened until it firmly grasps the skin. Four or five interrupted silk stitches are now passed through the notches in the blades of the clamp, and the redundant skin cut away. The stitches are then tied, and the clamp removed. After the bleeding has ceased, and the parts irrigated with a solution of bichloride of mercury, the wound is accurately brought in apposition with a continuous catgut suture, dressing is applied, and the operation is complete.

I have operated on varicocele by this method eleven times, with uniformly good results. In none of my cases were there any complications, and the average detention in bed was ten days.

Art. IV.—Notes on an Epidemic of Enteric Fever Among Children.*

By A. K. BOND, M. D., of Baltimore, Md.,

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The ordinary course of enteric fever among children is too well known to bear repetition upon any common occasion. The record, briefly stated, of epidemics of this disease is, however, always worthy of attention, as pointing out variations in the type of disease, possible causes of its onslaught, and useful methods of treatment. For these reasons, I offer here a short review of an epidemic of twelve cases of enteric fever which occurred under my medical care in a home for destitute children, during the autumn of 1894:

The patients' names and ages were: Carrie, 12 years; Abbie, 7 years; Maud, 9 years; Willie, 3 years; Joanna, 8 years; Maurice, 4 years; Annie, 5 years; Tillie, 7 years; Louisa, 4 years; Dora, 4 years; Katie, 5 years, and Mary, 19

*Read before the Medical and Chirurgical Faculty of Maryland, at Belair, November 19. 1895.

years. The last named was a permanent cripple in the lower limbs from a healed injury to the lower part of the spinal column. The first patient came under my care on September 9, the last on October 9.

It is almost impossible to fix the date of onset in any case, for these patients, along with numbers of other inmates, had complained more or less for days or weeks of malaise and sundry ill-defined troubles referred to the digestive tract, and only gradually did it become evident that these patients were suffering from a persistent disease which could not be cured by oil or calomel purges, and quinine. It seemed very probable that some of those thus slightly affected were really ill with the same specific disease as the twelve to whom this article particularly refers.

Symptoms.—The symptoms exhibited during the epidemic present some points worthy of especial comment. The fever lasted between fourteen and eighteen days in the five youngest patients (Group I.), whose ages range from 3 to 5 years. In Group II., of six children, ranging in age between 7 and 12 years, the fever continued between thirty and fifty days, a very remarkable increase over that of the first group. The adult patient, 19 years of age (Group III.), had a fever of twenty-three days, exhibiting altogether a very mild degree of iliness for an adult. A similar relation was observed between these three groups in regard to the height to which the temperature climbed. In Group I., the greatest height reached lay between 102 3° and 103.5°; in Group II., between 104° and 105.5°; in Group III., 102.5°. The temperatures were taken usually by myself and usually about the middle of the afternoon, by tested thermometers in the axilla. Headache was a frequent symptom at the beginning. There was no delirium worth noticing, only one or two patients wandering in thought a little at night. The hearing of several patients was temporarily dulled while in sick-bed. Nose-bleed occurred in several cases at the onset of the disease. Trembling of the hands was observed in several cases late in the disease, and one patient (Abbie) exhibited continual blinking of the eye-lids of both

eyes during sleep, which suggested impending convulsions, but, after lasting a week, passed away without injury.

Rose-spots were observed in all but three cases—Maurice, Dora and Tillie. They came in successive crops, and were very well marked even in the little boy, aged 3 years, who for five days had from two to three spots, old and new, upon the abdomen. The abdominal walls in all twelve cases were usually natural to sight and touch; tympanitic tendencies, as well as gurgling and pain in the right iliac fossa, being found only for a short time in two or three cases. There was a strong odor about the bodies of several of the patients, suggestive of the intestinal fever. The bowels were not decidedly loose nor costive. In only a few instances were characteristic typhoid stools observed. Enlargement of the spleen so that it reached beyond the ribs was evident in only one or two cases. In one case only (Carrie) there was albuminuria, giving a decided ring with nitric acid (the test applied as a routine in each case). Upon the sixth day no ring was found, upon the seventh a slight ring, and occasional examinations during her illness showed a decided ring. No casts were found, and after convalescence was well established albumen could no longer be detected. This patient was not more dangerously ill than several of the others.

No alarming disorders of the heart were found in any case—only a little muffling of the first sound where fever was prolonged, and a ringing tone in the second sound in the albuminuric case. In Maurice, a slight systolic murmur at apex, probably from previous rheumatic fever, was not essentially increased and had no unfavorable influence upon the course of illness.

In all but two cases there was considerable catarrh of the lungs. Some of these cases might easily have been mistaken for cases of simple, uncomplicated bronchitis, or of obscure pneumonia, upon superficial examination. The lung disorder, however, appeared some days after the onset of the fever; it shifted its location and varied in intensity without seriously disturbing the fever course in the early

weeks of illness. In the later weeks it was a question unsolved whether the now localized lung catarrh (possibly a little focus of pneumonia) was responsible for the exacerbations of fever or whether these were the result of deep bowel lesions. The failure of the respiration to rise in frequency proportionally to the onset of the supposed pneumonia seems to indicate that there was no severe pneumonia present in any of the cases. There was no sputum of note in any of the twelve cases.

The hard, dry, brown tongue of severe typhoid in adults was not developed in any of the cases. In all there was more or less coating of the tongue, especially in its centre and at its back, but the tongue was usually moist throughout the illness. The appearance as of brown moss was present on several occasions along the centre of the tongue, giving place soon to a common brown coating. The loss of tissue in these twelve cases was not remarkable. Some preserved considerable plumpness throughout. Several were emaciated and in a state of debility at the onset of the illness, as the result of privations and ill-treatment before they came to the institution.

In one of these latter cases gangrene of the mouth occurred on the thirteenth day of the disease. This patient (Louisa) had not exhibited any signs of unusual illness. The temperature had run along at 103.5°, once climbing to 104.5°. The breath was observed to be offensive three days previously, but several of the other patients exhibited this also. The tongue of the patient had had a chocolate-brown coat, but this had almost cleared away, and nothing wrong in the mouth was suspected when, on the thirteenth day, a red blush developed on the left cheek and led to careful examination of the oral cavity. This disclosed a gangrenous patch about the line where the teeth meet. It extended forward along the inside of the cheek from about the anterior border of the masseter muscle. The spot was perhaps the size of a silver quarter, and was covered with chocolate-colored shreds of tissue. The odor was that of gangrene.

I ordered the frequent use of a wash containing potass. permang. ʒj, aq. destil ℥j, removed the patient to a separate ward, and gave her over into the care of a fellow-surgeon of

the house staff. Next day the temperature had risen from 103.8° to about 105°. A bath-tub was secured and full baths given to keep down the fever. The wash of permanganate, further diluted, was found amply sufficient to correct the gangrenous process, and no other local application was used. The red blush on the outside of the cheek faded in two days. In a week she was in about as good condition as when the gangrene began. The temperature continued at about 104° to 105° for nine days after the spot of gangrene was pronounced under control, this having been reduced to a simple, ragged, healing ulcer, running down behind the lower molars. Baths for the reduction of the temperature were given up, as they were now very unpleasant to the patient and seemed to do no marked good. The temperature gradually fell as the abdominal symptoms subsided.

Treatment.—The treatment in the epidemic began with a thorough purging, given to each of the patients as soon as the digestive and febrile symptoms appeared. The agents used were castor oil or calomel. Quinine was also used in some cases as a test for malarial influences. The treatment after this case was systematic.

As long as the temperature remained below 104.5°, or thereabouts, simple remedies, such as spirit æther nitrosi and cool sponging of the body were thought sufficient to control it. In two cases full baths were tried.

One of these patients (Carrie), who seemed much affected in the nervous system by the persistent temperature of about 104°, was laid on oil-cloths by the nurse and gently douched with water several times a day from the fifth to the eighth day. This reduced the temperature each time about one degree, but was so disquieting to the patient, and produced such after chilliness, that it was discontinued, the usual (and pleasant) spongings of the surface being substituted for it. On the following day the temperature was again 104° in the afternoon. It remained above 103° for five days longer and then sank of its own accord to about 101.5° for four days. Rising again to 103.5°, it attained on the second day 105.5°, and remained above 105° two days longer. Full tub-baths were now tried, repeated several times daily. Each bath reduced the temperature about 2°. After two days' trial they were discontinued, as they agitated the patient and seemed to do her no real

good. Spongings being again substituted, the temperature continued for another day at 105°, then sank to 102.5° for one day, rose again to 104° for two days, and then gradually sank to normal. This was the patient who had albuminuria.

The other patient receiving full baths (Louisa) was sponged from the second to the thirteenth day, the temperature running about 104°. After the gangrene had been present a day or two the temperature rose to 105°, and full baths were given, much to the satisfaction and benefit of the child. In about a week they were discontinued, as the temperature became nearly normal. The temperature again rose on the twenty seventh day to 104° and later 105°. Baths were again given, but they were now so unpleasant to the patient that they were discontinued after one day's trial. The temperature at this time remained between 104° and 105° for eight days, gradually sinking of its own accord to normal.

None of the other patients received full baths or douchings, being simply sponged with moderately cool water several times a day. Their temperatures were frequently above 104°. All twelve patients recovered fully, and there were no grave complications other than those already mentioned. It would seem just to infer that cool baths should be given in the enteric fever of children only when they do not seriously disturb the patient and seem to be decidedly beneficial, as children bear high temperatures in many cases for many days without serious damage. Where it is evident that excessive fever is killing the patient, the most heroic and disagreeable remedies are of course justifiable. When, however, as in some of my cases here recorded, a child with a temperature of 103.5°, 104° or even 105° is reclining in bed and laughing and talking with her fellow-patients, it does not seem that heroic remedies are demanded, which reduce the patient to a state of misery.

It is to be understood that the temperatures mentioned were not continuous throughout the twenty-four hours, but represented only the highest point reached in the afternoon. All temperatures were taken in the axilla.

Very great care was given to the nourishment of the patients throughout the epidemic. The standard fixed for feeding was a cupful of milk every two or three hours during the day and (when needed) during the night also. If this amount of milk is digested it is amply sufficient. Brandy and whisky were given whenever they seemed indicated, with due caution against the liquor habit. As there was some tendency to imperfect digestion in several of the cases, they were put upon essence of pepsin (sometimes with dilute hydrochloric acid) after each administration of milk; and, as a precaution, this digestive aid was extended to all, or nearly all, of the patients far into convalescence.

Another point upon which I laid great stress was the prevention of unhealthful accumulations of ill-digested or foul matters in the bowels. To prevent this, after about a week of illness had passed, and after an estimate could be formed of the amount of diarrhœa to be expected from the typhoid process, I began to order small doses of epsom salts (ʒss to ℥j) to be given to every patient who failed in daily evacuation. These doses were given every other morning, every morning, or morning and afternoon according to the costiveness and to the strength of the patient. The results were so favorable that the method seems to me worthy of general application in this disease. It is to be suspected that deep ulcerations of the bowel are sometimes favored by the presence and irritation of hard or foul masses of unwholesome feces. To prevent these accumulations, to sweep them out daily when formed, to relieve the congestion of the bowel walls, and to flush the digesting canal with fresh and wholesome secretions of the great digestive glands, seems surely worthy of attainment; and these ends may be safely and surely attained by the administration of epsom salts in the manner referred to. Of the lowering of temperature and restoration of the sense of well-being which follow such cleansing in all cases of fecal decomposition with constipation, I need not speak further.

For the rest, it may suffice to state that the injunction of a certain great teacher to "take no risks whatever" in the diet, in the confinement to bed, and in the management of convalescence, was faithfully observed. The patients were forbidden solid food until the highest daily temperature had been at normal for several days.

Causes of the Epidemic.—The epidemic before us presented an interesting study concerning the origin of epidemics of enteric fever, although it leaves the question still undecided.

The institution embraces two large buildings placed side by side upon a wide and populous avenue. In one building are the older boys; in the other the older girls, while children of 5 years and under of both sexes are found in both buildings The water supply is by separate hydrants from city mains; and the sewerage and privies are separate for the two buildings, the privies being cesspool-vaults overflowing into city sewers, and water-closets well ventilated in each building. The milk and other food supply is the same for the two buildings. The city water is always open to suspicion, since one of its sources is in very bad sanitary condition in summer, and the water itself is sometimes offensive from vegetable suspended matters during the hot months. I have had strong reasons, in a past summer, for connecting outbreaks of simple though severe stomach troubles in the neighborhood of the said institution with an offensive condition of the water in that neighborhood at the time of the outbreaks. But the fact that, although mild digestive disorders occurred at time of the epidemic of which I write in both buildings, each containing perhaps 150 children, enteric fever (permitting diagnosis), occurred only in the girls' building, makes it impossible to lay the epidemic to the charge of the city water supply.

The milk supply of the institution was not above suspicion. Although about up to average of high grade city milk, it was collected by the central dairy from numerous tributary dairies, some of them in regions where enteric fever is epidemic nearly every summer. Moreover, this

central dairy was supplying at the time a large institution for orphan girls in the city in which an epidemic of 12 cases of enteric fever, one of them fatal, was raging at the time of the epidemic to which this paper refers. Moreover, in at least one severe case in private practice at this time, this dairy had supplied the milk. An onslaught was made therefore by the city authorities, upon the reputation of this dairy, as some eminent medical men believed it to be the source of infection. But again the fact that, in the institution under my care, it occurred in but one of the two buildings, both of which had this milk supply, induces me to declare the charges against the dairy, "not proven."

Knowing that night-soil from city privies is obtained by truck gardeners in the vicinity and sprinkled, diluted but in no way disinfected, over growing vegetables to force them for market, I enquired carefully into the vegetable supply of the institution, but was informed that no uncooked vegetables had been served for about a month before the outbreak of the epidemic.

The local sanitation of the girls' building received careful attention from the very first from myself, a consulting physician and the city health officer, but nothing suspicious was found, save a clogging of one of the cesspool outlets into the sewer. As the cesspool was not excessively full, the epidemic could hardly be traced to this source, especially as the cess-pool was some distance from the house in the yard. and the water-closets in the house were free from suspicion on repeated examinations. That the epidemic did not arise from permanent focuses of infection in the Institution seems to be proven by the fact that for five or ten years there has been no epidemic there of enteric fever, and as far as I can learn no isolated cases of that disease. (I need hardly state that careful disinfection of water-closets, of cess-pools and of all stools of the patients was strictly enforced throughout the epidemic. The cess-pools are always disinfected once a week or oftener in hot weather, whether there is illness in the Institution or not.)

Before abandoning as hopeless the search for the causes

of the epidemic, we may pause for a moment to consider the difficulty which attends the clinical diagnosis of enteric fever in very young children. As shown at the beginning of this paper, the patients under five years of age presented very few points for diagnosis. Apart from the existence of the epidemic, I would not have pronounced a positive opinion in some of these cases. A fever of not more than two weeks, with temperature reaching 102.5° or 103°, for not more than four or five days; a bronchitis of mild grade, some prostration, and some indefinite intestinal symptoms, the tongue being moist and only slightly furred, would hardly in itself justify a positive diagnosis of enteric fever. There were other little patients, not included among the twelve, whom I suspected to have the same disease as the twelve. They drooped for a week or two, having a little fever off and on, yet I did not consider them ill enough to be put regularly to bed. In addition to these, there were several others presenting still less definite symptoms of the same character. And these latter patients were found in both houses of the Institution. Now, if some of these little children had true enteric fever, though in extremely mild degree, it follows that both houses may have been included in the epidemic. In this case, the charges against the water-supply or the milk supply, might again be taken carefully into consideration.

Conclusions.

In closing, I would draw attention to a few important inferences from what has been said.

That children often bear high temperatures well in this disease.

That full baths should be very carefully and judiciously applied, if at all.

That the disease in children under five years of age may easily be mistaken for other digestive disorders or for bronchitis.

That albuminuria coming on during the fever does not necessarily lessen the chances of recovery.

That gangrene of the mouth, if superficial, may in some cases be cured by permanganate of potassium washes, without caustics.

That digestion ought throughout the disease to be aided by pepsin or pepsin and acid.

That great care ought to be used for the prevention of accumulations of ill-digested, foul and irritating food residues in the bowels at any time from the inception of the disease far into convalescence. At the very beginning the bowels should be *thoroughly* cleaned out. Later, if there is not depressing diarrhœa, occasional one-tenth grain doses of calomel should be used. If there is constipation, small doses of epsom salts should be regularly administered as described.

889 *Park Avenue.*

Art. V.—The Importance of a Mircoscopic Examination of Blood in Disease—Lobar Pneumonia in Illustration *

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When we recall the many scientific investigations that are being made in medicine which lay just claim to the consideration of the physician, it is really surprising, yet gratifying, to note how well informed the busy practitioner keeps himself. However, upon second thought, one reason, at least, for this familiarity with the many engrossing topics of our profession, is to be found in the fact that when a new field of science has opened its doors to the diligent investigator, the salient features of the new subject are brought to his notice in a condensed, yet tangible form.

Therefore, in speaking to-night of the importance of a microscopical examination of the corpuscular elements of the blood, I shall deal, not so much with those theoretical

*Read before Richmond Academy of Medicine and Surgery, November 26, 1895.

questions which are as yet enveloped in much uncertainty, and about which there are a contrariety of opinions, but rather would I invite your attention to the clinical picture which is revealed by the field of the microscope, offering as it does, when correctly interpreted, such valuable assistance in arriving at correct diagnoses, or in determining the type, severity, course, and probable termination of certain diseases as now understood. I shall direct my remarks wholly to the efficacy and value of such an examination in general diseases, for example, pneumonia, typhoid fever, malaria, syphilis, gout, tuberculosis, sarcoma, carcinoma, etc.; and in doing so will enter a realm as yet comparatively unknown, but which I trust will prove, as it is more thoroughly investigated, none the less inviting and interesting.

All understand and correctly value the necessity for and importance of a careful and thorough microscopical examination of the constituent elements of the blood in certain special diseases, for example, simple anæmia, progressive pernicious anæmia, leucocythæmia, chlorosis, etc., which, by their existence, determine the relative proportion of the corpuscular elements and serve to identify the pathological condition. Among the formerly mentioned class of diseases there are some in which the pathological condition of the constituents of the blood affords us a sure means of diagnosis, while in others it furnishes a corroborative symptom, which, when taken into consideration with other symptoms, serves to clinch the diagnosis with greater certainty. In this brief sketch I shall not be able to give more than a mere outline of the subject, as at present understood, and shall now invite your attention to the *morphological constituents of normal blood.*

Blood consists of a fluid portion or liquor sanguinis, in which are suspended red and white blood corpuscles and blood-plaques. As generally seen, and under normal conditions, the red blood corpuscles are non-nucleated "circular disks, bi-concave in profile, having a slight central depression, with a raised border." Nucleated ones are never seen, normally, in streaming blood—*i. e.*, blood flowing from a sev-

ered artery or vein, or from a puncture, but are to be found in the blood-forming organs, especially the red marrow of the ribs and that of the bodies of the vertebræ. On the contrary, when they are present in a prepared specimen they indicate a pathological condition, the importance of which is second only to the rôle played by a form of cell which is to be found among their less numerous cousins—the white blood corpuscles.

We differentiate two forms of the nucleated red blood corpuscles—viz:

1. The normo-blasts which are of the size of other red blood corpuscles. Their nuclei pass out and then become free nuclei—the cell itself becoming the ordinary red blood corpuscle.

2. Megaloblasts or gigantoblasts, which are twice or thrice as large as the ordinary red blood corpuscle. Their nuclei do not pass out as in the case of the normo-blasts, but fall to pieces in the hæmoglobin. The white blood corpuscles, with which we are more particularly concerned are nucleated "globular cells, with a smooth surface, somewhat opaque from the presence of more or less granular matter, the protoplasm, which assumes amœboid movements." I would especially emphasize the importance of this granular condition of the protoplasm, for it is to this very fact that we are able to distingush two forms of cells, viz.: the neutrophile and eosinophile.

We divide the white blood corpuscles into several classes.

1st. According to the number of their nuclei, into mononuclear and polynuclear cells.

2d. According to their place of origin, (a) lymphatics, or lymphocytes, (b) spleen or spleenocites, (c) red marrow of the bones or mark cells.

3d. According to the appearance of the protoplasm, (a) Homogeneous cells, (b) Neutrophile cells, or those having fine granulations and staining with either an acid or an alkali, (c) Eosinophile cells, or those having coarse granulations and staining with eosin.

4th. According to the chemical reaction of the proto-

plasm into (a) acido-phile cells, those staining with an acid, (b) basophile cells, those staining with an alkali; (c) neutrophile cells, those staining with either an acid or an alkali.

We have still other forms which might be properly termed transitional, since they are met with in the development of the leucocytes. However, before mentioning these varieties, it will be necessary to speak of the constituents of their nuclei, that you may better understand the various steps of their growth.

The nucleus is composed of two substances, viz.: chromatic and achromatic. The former of these is stained with ease, while the latter resists the coloring material wholly or in part. The young cells contain but little chromatic substance, which is arranged in the form of a fine net work; hence the name chromatic net-work. It is to the scarcity of this constituent part that we are enabled to distinguish a young from an old cell—the former staining but faintly, while the latter is stained deeply, assuming a dark shade. The youngest cells are mononuclear with light colored nucleus and homogeneous protoplasm. From these are developed the "übergangs form" or transformation cell, without granulations, the nucleus of which assumes the shape of a horse-shoe. This goes a step further in the process of development, and we have the "übergangs form" or transformation cell with granulations, the nucleus of which has the same horse-shoe appearance, and a little more, for from the centre of it is to be seen a projection.

As a last stage in this process we have the polynuclear cell with fine granulations, which has been referred to above under the name of neutrophile cell. It will be remembered that the older the cell becomes, the more darkly is it stained.

As the last variety of the white blood corpuscles, we now come to consider the "mark cells." They differ from the other forms of leucocytes in two ways:

1st. They are twice or thrice the size of ordinary white blood corpuscles.

2nd. They are always mononuclear cells.

We have three separate and distinct varities of the mark cells.

(*a*) Ehrlich's neutrophile mark cells, or "myelocytln," which are mononuclear cells, having light colored nuclei, with fine granulations in their peripheries.

(*b*) Ehrlich's eosinophile mark cells, or "Myelocytln," which are large mononucleated leucocytes, nearly all of which are filled with coarse granulations, so that one sees but little of their nuclei.

(*c*) Corneil's mark cells are larger than the other two forms of mark cells. They have an eccentric lying nuclei, composed of chromatic net-work, with homogeneous protoplasm.

With this hurried, and I fear too superficial recapitulation of the many varieties of cells which will come under our notice over and over again, by this method of rendering a diagnosis, and which it will be necessary to recognize in order to appreciate their signification, I now pass to the more practical part of my subject.

The disease selected as being most suitable for introducing this subject, and one which will furnish us the opportunity for testing the value of my remarks, is *lobar pneumonia.* At present, and within the next few months, it is, and will be by far the most prevalent of all serious diseases that will require our care. At the recent meeting of the British Medical Association, held in London, I had the pleasure of listening to some very interesting remarks on this disease, and strange to say, that among all of those learned gentlemen there was but one who touched upon the subject of the blood as met with here. However, the point which I wish to make is, that the general concensus of opinion seemed to favor the theory that lobar pneumonia is a general acute infectious disease with localized symptoms in the lungs. It may be that in the near future, when we shall fully understand the changes taking place in the blood, that we shall have opened to us a channel of information, which, in addition to throwing light upon this very point, will also serve to explain the origin of those

complications which may, and usually do, arise during the progress of this disease; and in so doing, offer to us the surer and more preferable basis of prophylactic medicine.

It is not many years ago that we were satisfied when we convinced ourselves that we had a lobar pneumonia to contend with; but in these times, when the germ theory has taken its place as the foremost of all recent discoveries in our field, we must go a step further and demonstrate whether we are dealing with a pneumonia caused by the Friedlaender pneumococcus, or one as the result of the Fraenkel-Weichselbaum pneumococcus. Following this line of reasoning, we have known for some time that there is an increase in the fibrin elements of the blood in this disease. Now we come to consider the other changes going on in the corpuscles themselves.

In the beginning of a pneumonia—and when I use the word pneumonia I mean *lobar pneumonia*—anæmia is seldom seen; but there is a thick fibrin net-work, and a marked polynuclear leucocytosis while the eosinophile cells are absent. Now the importance of this leucocytosis is especially diagnostic, for it "appears early, persists, and disappears with the crisis." (Osler.) It is by this persistent leucocytosis that we are able to exclude typhoid fever in those incipient cases where there are none of those characteristic symptoms of either of these diseases. In the latter disease, instead of having an increase of the leucocyses, there is mostly a decrease in them. Again, after the second week, when there is a leucocytosis, we find that the lymphocites have reached to the very high proportion of 80 per cent., while the polynuclear cells have decreased to as low as 20 per cent.

To return to the leucocytosis of the former disease, we find that the "Leucocytes may number from twelve to forty or fifty thousand, even more per cubic millimetre." The prognostic importance of this leucocytosis is found in the fact that the slighter it is the more unfavorable will be the course of the disease, while the reverse holds good. Osler very aptly says: "A point of consider-

able prognostic importance is that in malignant pneumonia the leucocytosis is absent, and in any case the continuous absence may be regarded as an unfavorable sign." The leucocytosis increases during the first days and continues in this high condition until the crisis. On the day before the crisis, or on the very day of the crisis itself, in most cases the hitherto absent eosinophile cells appear, and their appearance, together with the return of the chlorides in the urine, is of favorable prognosis. However, should the fever subside, and the eosinophile cells and chlorides fail to make their appearance, we have a pseudo-crisis, and is mostly "Signum pessimum."

Just here I wish to say one word about this crisis, and the probable part which the leucocytes take in bringing it about. We now believe that the crisis is the result of an anti-toxine, which, when it has accummulated in sufficient quantity, tends to restore the equilibrium of the diseased organism. If, on the one hand, we accept the teaching of Metschnikoff, may we not be rapidly approaching the time when we can demonstrate that this result, which we, as physicians, endeavor to expedite, is brought about either directly or indirectly by the phagocytical functions of the leucocytes? Or, on the other hand, if we accept the theories of other writers, may it not be possible for us to find a probable cause for the complications of pneumonia, owing to the fact that they serve as vehicles by which the bacteria are conveyed to other portions of the body? In either case, gentlemen, you will admit the importance played by the blood.

On summing up this matter, we find that three important facts can be obtained from an examination of the blood, viz:

1st. That from a diagnostic standpoint.

2nd. That from a prognostic standpoint.

3rd. It furnishes the time at which we may reasonably expect the crisis and the means of determining whether it is real or false.

In substantuation of the practicability of using this means of diagnosis in our private practice, as well as in clinical

observation, I wish to report a case which came under my notice while in Vienna, Austria.

Case. Mr. J. W. A., age 28, a healthy appearing fellow, who, by trade, was a shoemaker, presented himself in the Ambulatory for admission to the hospital, giving as his complaints a slight diarrhœa with general malaise. and an inability to do his work properly, owing to a tired feeling from which he could not rid himself. There was no history of pain, nor had he had a chill. In fact, there was no symptom to indicate that he might be upon the verge of a pneumonia; on the contrary, it looked more like a typhoid case

His various symptoms proved normal, upon examination, with the exception of his heart, which was somewhat enlarged, due no doubt to his previous military duties, as he had been compelled to undergo long and protracted marches. His blood was examined, and fibrin nets, as well as a moderate polynuclear leucocytosis was found, and the examiner expressed himself as being justified in making a diagnosis of incipient pneumonia. The patient was admitted to the wards and completed, successfully, a mild pneumonia.

This case may have been an exception, and no doubt was; but it is in just such cases that we shall find it most practicable to examine the blood; not in those cases of pneumonia where we have the well marked symptoms! for example, the physical signs of consolidation, the rusty sputum, the demonstration of the pneumococcus, herpes labialis, the type of the respiration, in which the proportion to the pulse instead of being 1:4, may be 1:3, or 1:2; unless we wish by so doing to find out the course of the disease and the time of the crisis.

In conclusion, I thank you, Mr. President and gentlemen, for your considerate attention, and trust that this, at best, but poor effort, may be the means of stimulating abler hands to investigate a subject which at first sight may seem mystifying to many, but which I feel assured will prove, as it is more thoroughly understood and appreciated, of great practical use in the diagnosis of disease.

Art. VI.—Anæsthesia as Produced by Schleich, of Berlin

By GEORGE TULLY VAUGHAN, M. D., Philadelphia, Pa.,

PASSED ASSISTANT SURGEON U. S. MARINE HOSPITAL SERVICE.

Schleich's method of producing local anæsthesia has been somewhat discussed in the medical journals and societies of this country, and with considerable difference of opinion as to its efficiency, mainly, I believe, owing to failure to follow strictly the details as given by the author. In January, 1895, I visited Dr. Schleich in Berlin and saw him operate, using his method of producing local anæsthesia. The solution is:

℞.—Cocaini muriatis.....	1.00
Morphiæ muriatis.....	.25
Sodii muriatis.....	2.00
Aquæ Distillat.....	1000.00—M.

The maximum dose, as a rule, is 50 c. c. of this solution, containing .05 gram (¾ grains) of cocaine, which is injected into the tissues to be operated on by means of a hypodermic syringe as follows:

If desired, the slight pain caused by the first insertion of the needle may be prevented by chilling with ether spray. This is not usually necessary. The needle is then inserted *into*—not beneath—the skin and a drop or two of fluid forced out, forming a white wheal in the skin which is instantly deprived of sensation as far as the wheal extends and a little beyond its borders. The needle is then pushed on from the borders of the first wheal a short distance and a drop or two more injected and so on successively along the line of the intended incision—first in the skin itself, then in the tissues beneath, layer by layer, including periosteum if necessary, until the entire field of operation is distended with the solution.

Dr. Schleich uses this solution in all minor operations, as opening of abcesses, whitlows, etc.; also in some laparotomies, if there are not too many adhesions, which would require too large a quantity of the solution for thorough saturation

of the tissues. He has used it in cholecystotomy, ventral fixation of the uterus, and in one case of amputation of the forearm. In the last operation there was some pain, but it was slight.

I have used this method in four cases with satisfactory results. In two of them the anæsthesia was not complete; but this, I think, was due to want of sufficient quantity of the solution.

The first case was excision on August 14, 1895, of a fibroma, about the size of a pigeon's egg, from the upper lip of a man. Less than 5 c. c. gave complete anæsthesia.

The second case was circumcision, August 22d, 3 c. c. being used which failed to produce complete insensibility, though the pain was much diminished.

The third case was operated on December 4th, excision of suppurating inguinal glands, and 8 c. c. of the solution were used. The tissues were thickened and inflamed so that the glands lay one to one and a half centimetres from the surface. Incisions with the knife caused no pain, but the tearing of the tissues with the fingers in dissecting out the glands caused a little.

In the fourth the solution was used to prevent pain in aspirating the pericardium; 1.75 c. c. of the solution being injected into the skin and underlying tissues down nearly to the pericardium over the sixth intercostal space. Absolutely no pain was felt on introducing the aspirating needle until the pericardium was punctured.

It is evident that this method of producing local anæsthesia, being so safe and simple, has a wide field of usefulness, not only in minor, but in certain cases of major operations.

Parke, Davis & Co. now manufacture a tablet, so that this solution can be prepared in a few moments, simply by dissolving a tablet in the proper quantity of water.

Dr. Schleich has also been experimenting with general anæsthetics, especially with three mixtures in different proportions, of benzine, chloroform, and ether, as shown below.

℞.—Ætheris petroli (benzine).....	5	5	5
Chloroform..	15	15	30
Ætheris sulphurici.....	60	50	80
Boil respectively at (centigrade)	39°	40°	42° C.

The mixture boiling at the lowest temperature (39°) gives the lightest narcosis, and the one boiling at the highest, the deepest.

The advantages claimed are quickness of action, sooner recovery from unconsciousness, and that little is left in the system for elimination by lungs and kidneys.

The one patient to whom I saw the lighter mixture given acted as I have often seen those who had taken chloroform. There was no stage of excitement and the patient vomited a little on waking.

Dr. Schleich uses a mixture of marble dust, lysol and wax for cleansing the hands and making them aseptic. Culture media inoculated with scrapings from beneath the finger nails after cleansing with this mixture, remain sterile. As an ointment and protective to wounds, he uses a powder of oxide of zinc and sterilized blood serum, dried and pulverized, wetting the powder and making a paste before applying. It dries and makes a protective dressing somewhat like collodion.

410 *Chestnut street.*

Art. VII.—Epileptic Colonization.*

By S P. PRESTON, A. M., M. D, Lynchburg, Va.

Charity and munificent care for the sick and helpless are always characteristic of higher civilization. Education develops the moral senses as well as the mental; and if nothing more can be said for the scientific medical progress of the nineteenth century than that it has pointed out the causation and real significance of many diseases hitherto

*Read before the Lynchburg Academy of Medicine, November 12, 1895.

considered, from ignorance of their origin, so loathsome and offensive that men drew aside their robes from the suffering one,—and went their way in disgust, or with the meaner feeling of mirth and ridicule, then it can be truly said that this is sufficient praise, sufficiently earned. The medical man of to-day appeals to higher intelligence as he leads the chronically diseased and practically incurable case to his healthy fellow, and says, "This man is to thee dearer than a brother. He needs the fostering care and protection that would be given to the infant in arms. Let us do what we can to comfort him and ease his sufferings, so that his life shall not be one long, horrid, mental and physical agony.

As a result of this enlightenment, magnificent institutions for the insane, for the consumptive, the cancerous, for the deaf and dumb and for the blind have been erected by State and private contributions. But one disease, *epilepsy*, has been hitherto woefully neglected. Those thus afflicted are consigned either to the insane asylums or almshouses,—both most unsuitable places for the care of the majority of such cases. The epileptic generally leads a most unhappy life when he is out in the world. Unfitted for work or society by the uncertainty of his health, he is, to his own generally keen sensibilities, a great mortification, a dread to the people around him, and oftentimes a reproach to his relatives. Compelled to idleness—and all the more a prey to his fears and anxieties through having all his time for self-inspection—it is small wonder that he often eventually becomes insane, and is then, and then only, a fit subject for an asylum, to which he is, alas, as a rule prematurely hurried.

The ideal scheme of treating such cases is to place them in comfortable surroundings, with good food and careful medical attention; give them plenty of suitable work, to divert their minds and render them self-sustaining as is consistent with proper attention to their health. The "Epileptic Colony" is the realization of such a scheme. The first to undertake the colonizing of the unfortunate people was

John Bost, pastor of a Protestant church at La Force, near Bordeaux, in France, in 1848. Along with other incurably diseased he included the care of epileptics. The celebrated colony of Bielefeld was organized twenty-five years ago, and numbers 1,100 epileptics, occupying a farm of 1,350 acres, and having its members busy in various useful departments of agriculture and mechanical work. Pastor von Bodelschwingh was the means of putting the idea into execution, and it is said to be most ideal in its practical management, especially as regards the homelike and comfortable arrangements for living.

In England, the Magull Home for Epileptics was founded in 1889, and at Godalming in Surrey, the Countess of Meath has established recently a home for fifty epileptic girls and women.

The two or three hospitals for nervous diseases in London either do not receive the chronic epileptic or treat them only in the out-patient department.

An epileptic farm is being founded by the National Society for the Employment of Epileptics in Buckinghamshire near the village of Chalfont, St. Peters.

In the United States, Ohio has the honor of first establishing a State institution for epileptics, but the place is run too much like a hospital, and not much care has been taken to give to the establishment a home like appearance with its consequent attractiveness.

Children under fourteen years of age, afflicted with epilepsy, are received in the hospital cottages for childred at Baldwinsville, Mass., and the Governor of Massachusetts in 1892 sent a message to the Legislature in regard to making State provisions for epileptics, recommending favorable action.

Pennsylvania, California, Minnesota, Michigan, Maryland, and other States, are beginning to make provisions for the care of epileptics, especially for the children.

The most interesting and extensive colonization is being done in New York State under the skillful direction of the

originating genius, Dr. Frederick Peterson, of New York city. A large farm of 1,850 acres near Mt. Morris, Livingston county, has been purchased by the State. The property, known as Sonyea, was a Quaker settlement and had already on it a large number of buildings, shops and outhouses. Lying as it does along the beautiful slope of the western hills and extending down into the Valley of the Genesee, it includes in its borders the proper proportion of arable, pasture and wooded lands, and with a comparatively small outlay of money, is being expeditiously converted into a garden-spot, where its inhabitants may pass their lives surrounded by sweet rural enchantments, far different from the prison bars to which they were otherwise generally destined. Work there will be in plenty, for there will be few idle hands in this hive of industry; but it will be work for a large part in the open air, breathing the sweet scents wafted by pleasant breezes from forest and pasture. In repairing and making new houses, every attention is being given to the appearance of the building. Care is taken that they should not have the formal stiff architecture of an "Institution." The structures are home-like and of an attractive appearance. Shops of various kinds, and the necessary outbuildings for such an establishment, are grouped around the central superintendent's offices. Estimates are obtained from architects, landscape gardeners and engineers as to the buildings, grounds, sewerage and water supply. And from the report of the Board of Managers of this, the "Craig Colony for Epileptics," it is easy to see that the affair will be managed in the most active business way; and the broad, progressive minds of those in charge of its development have resulted in most magnificent plans, which are being rapidly and thoroughly executed. The Craig Epilectic Colony at Sonyea bids fair to be perfection in the way of an ideal scheme for the treatment of an unfortunate and unhappy people, and will evidently result in more restoration to health and succeed in throwing more sunshine in their lives than any other means could possibly do.

Too much praise cannot be given to the master-mind in the undertaking, Dr. Peterson, and the gratitude of thousands of happy and contented souls is additional tribute which will undoubtedly be far more grateful to the unselfish scientist than any monument, however grand and imperishable.

Such an arrangement as this has become a necessity in the South, and Virginia should lead the way. The other Southern States would doubtless become patrons of an institution of this kind. Good cheap land we have in large quantities, and it only needs care and scientific attention to become very productive.

It would relieve the State of a considerable amount of expense, and place these unfortunates in the best possible position to enjoy a life of usefulness and improved healthfulness, and would give a feeling of great security and comfort to their relatives and friends.

It is to be especially indicated as a prime necessity of such an institution that, by grouping together large numbers of such cases, all over the world, a scientific investigation of the disease is much easier, and early solution of the cause, and an early means of successfully treating and curing it much facilitated.

Art. VIII.—Post-Operative Intestinal Obstruction.*

By HUGH M. TAYLOR, M. D., Richmond, Va.,

PROFESSOR OF PRACTICE OF SURGERY, UNIVERSITY COLLEGE OF MEDICINE, SURGEON TO VIRGINIA HOSPITAL, ETC.

Within the past year, it has been the writer's misfortune to have had two deaths from intestinal obstruction after abdominal sections. One was a case of septic peritonitis, intestinal paresis, and obstruction, following laparotomy for pistol wound of the belly. The other was probably due to damage done the intestines in digging out pus-tubes. The

*Read before Medical Society of Virginia, in Wytheville, Va., September, 1895.

obstruction in this last case was probably mechanical in character.

The literature on the subject of post-operative obstruction fully sustains the conclusions that it is—

(1) Frequent in its occurrence.
(2) Fatal in its issue.
(3) Difficult to diagnose.
(4) To some extent preventable, and
(5) To a limited extent curable.

It occurs in the practice of master abdominal surgeons as well as in that of the tyro; although it is probably not so frequent after the work of the expert.

Frequency.—It is estimated that from 1 to 2 per cent. of deaths after laparotomy occur from intestinal obstruction. Sir Spencer Wells lost eleven of his first series of 1,000 ovariotomies from obstruction—1.1 per cent. Fritsch had 1.6 per cent. of deaths from post operative ileus. Klotz reports 31 cases of obstruction in 421 abdominal sections and 148 vaginal extirpations of the uterus. In Sanger's clinics, there were five fatal cases of intestinal obstruction following 132 cœliotomies, or fifty per cent. of the deaths were due to this cause. A limited study of the causes of deaths after abdominal sections, and a limited experience in abdominal surgery, suffice to prove the frequency and importance of this subject. It is held by good authorities that many more deaths should be credited to obstruction.

The symptoms of acute sepsis and acute obstruction have so many common points of resemblance that it is often impossible to differentiate between them. Many cases diagnosed as sepsis are primarily obstruction, and hence the reasonable conclusion that the death-rate from obstruction is larger than from 1 to 2 per cent. Acute intestinal obstruction, however induced, claims a high death-rate. Post-operative acute obstruction, plus the general and local diminished resistance, incident to a laparotomy, is a most formidable complication—so formidable that it is almost invariably fatal without operative interference for its relief, and very generally fatal in spite of surgical aid.

Post-operative obstruction can best be considered by dividing the cases into (a) those caused mechanically—*i. e.* by bands, twists, adhesions, hernias, flexions, matting, etc., of the bowels; (b) those due to sepsis and intestinal paresis incident to sepsis; (c) those due to intestinal paresis and obstruction caused by injury to the nerve-supply of the muscular coat of the bowel.

Dr. Rockwell presents a table of eighty-nine cases of acute intestinal obstruction; 24 (or 34 per cent.) were due to adhesions. This obstruction may occur in many ways. A knuckle of bowel becomes anchored to a pedicle (intra-peritoneal) to the abdominal incision, to the uterus, bladder, etc. It may be snared in a rent in the omentum or mesentery, constricted under or over an old unliberated inflammatory band, bound down in a pocket from which a pus sac or intra-ligamentous cyst has been shelled out, by matted coils of intestines walling in an infected appendix, or local or general plastic peritonitis from any cause may block the fæcal current.

How do the adhesions bring about acute intestinal obstructions? They do it by acutely flexing or constricting the bowel—blocking its lumen, causing an arrest of fæcal circulation, damming above the obstruction, fæcal and gaseous contents. Decomposition of the retained products ensues, a closed culture tube is furnished, the vascular and nerve-supply of the coats of the bowel is interfered with, and diminished tissue resistance results; migration of septic organisms from the intestines to the traumatized intra-peritoneal structures rapidly follows and induces septic peritonitis. As the post-operative obstruction from adhesions is, to a limited extent, preventable by careful intra-peritoneal plastic work, and in some instances curable by early operative interference, this division of our subject merits a large share of attention.

Obstructions resulting from adhesions or mechanical causes, are aptly divided into those manifesting themselves within the first few days after a laparotomy; those giving rise to symptoms not until the sixth or eighth days; and

those more chronic in type and not giving trouble for several weeks. Much more has been written upon the cases reaching their acme in six or eight days. Many more cases of that class are reported.

Observation upon this class has seemingly overshadowed those occurring within the first few days. Dr. George H. Rohé thinks that unless the obstruction is due to some untoward occurrence in the technique, the symptoms of obstruction are not likely to be present for several days subsequent to the operation. If a patient does well for three or four days, or longer, after an abdominal section or vaginal extirpation, and is then suddenly attacked by vomiting, tympanites, etc., the diagnosis of obstruction is probable. Dr. L. H. Dunning expresses the conviction that the symptoms to which this occlusion gives rise, are usually pronounced from the first, but in many cases of internal strangulation do not appear in all their intensity until the second day. It is claimed that we nearly always find the omentum or bowel adherent to the abdominal incision. It is claimed, on good authority, that we have adhesions after every laparotomy. Admitting this to be true, it is a wonder we do not more frequently have post-operative trouble from adhesions.

As explaining why the symptoms of obstructions do not usually appear for several days, it has been held that it takes a little time for the adhesion to form, a little time for the flexion, contraction, matting, etc., to induce arrest of fæcal circulation, disturbed vascular and nerve circulation, lessened resistance of walls of the bowels, paresis and sepsis.

On the other hand it is claimed, and we think with reason, that adhesions form rapidly—within a few hours after the advent of plastic peritonitis—local or general. If we recall the fact that in six or eight hours approximated peritoneal surfaces will adhere strong enough to hold in spite of active peristalsis, it is a natural inference that adhesions strong enough to mass a coil of bowel in a raw pelvic pocket, or under a knuckle of bowel in an abnormally flexed position, may take place in twenty-four hours.

Paresis of the bowel and obstruction may result rapidly. Dr. A. H. Cordier has seen a case go on the operating table with an intestinal canal empty and as flat as a tape line, and within two hours after operation find it enormously distended as a result of prolonged and unavoidable handling.

The symptoms of obstruction from adhesions occurring within the first twenty-four hours, are masked by the vomiting incident to anæsthesia, by the shock of the operation etc. It is claimed that many cases credited to sepsis from faulty aseptic precautions, should be credited to mechanical obstruction and sepsis, the infection coming from the paretic bowel.

It is by no means easy to say whether the symptoms manifested are those of obstruction from adhesions or those of obstruction from sepsis. Septic peritonitis produces intestinal paresis and obstruction. Mechanical obstruction produces paresis and septic peritonitis. The idea has been advanced that acute obstruction is more rapid in its manifestations and effects. Perforative septic peritonitis may induce profound shock, etc., and rapid death not always. In either type of obstruction, the course from bad to worse is often run so rapidly that we cannot tell which is the primary morbid condition.

Dr. Senn, in his "*Principles of Surgery*," reminds us that physical signs and symptoms are utterly inadequate to distinguish between acute intestinal obstruction and diffuse peritonitis. If this is true of the symptoms of acute obstruction, unassociated with cœlotiotomy, it is to a greater extent true when they are masked by the symptoms of shock, vomiting, etc., incident to the operation.

The diagnosis is an all-important matter. No need to try to ascertain the type of the mechanically-induced obstruction; it is sufficient to know that the fæcal current is arrested beyond a reasonable hope of restoration by purgative enemata, etc. Each hour of waiting confuses more and more the symptoms, and when paresis, from either acute

sepsis or acute strangulation, occurs, every landmark or differential point is masked.

The symptoms of post-operative obstruction are essentially the same as those of acute obstruction not associated with an operation. They are notably, vomiting first of undigested food and fluids, later of a bilious character, and finally stercoraceous; shock and inability to pass fæces, or flatus; but if the obstruction is high up, passages from below the obstructed point may be discharged. If the symptoms come after the tympanites, which, to a limited extent, is not uncommon, even after laparotomies doing well, after the muscular rigidity and soreness incident to the operation, are less marked, we may possibly be able to outline and follow the distended bowel as it increases upward away from the point of obstruction; this is the exception, and, as a rule, we must rely upon the constipation, vomiting, etc., and symptoms common also to sepsis.

If there are any known symptoms which differentiate in the first few days between obstruction and sepsis, we have not been made familiar with them by personal experience or by studying the recorded experience of others.

It may be said that the onset of acute intestinal obstruction is rapid, attended first by no fever. This helps us when not associated with a recent laparotomy; after the laparotomy, a limited fever may exist without danger—reactionary; and again, acute sepsis may occur with frightful rapidity and be attended with a nearly normal or even subnormal temperature. Increased peristalsis above the obstruction at first occurs and is succeeded by paresis and cessation of gaseous movement when intestinal paresis occurs. This point is urged by many able clinicians, and probably is of value in the absence of masking symptoms incident to a laparotomy.

The diagnostic value of indican in the urine is denied or is questionable.

Usually, in the early days after the operation, before it is realized, intestinal paresis has occurred; the abdomen is tympanitic and uniformly swollen, and we have no means of

knowing whether we have a case of septic peritonitis *per se*, or septic peritonitis incident to obstruction. It is probable that we cannot make an exact diagnosis within the first twenty-four hours, but we should not be unmindful of the fact that from 1 to 2 per cent. of cases doing badly, are due to mechanical obstruction, and this does not, perhaps, represent one-half the actual number. If we have septic peritonitis without adhesions, irrigation and drainage is called for. If adhesions with present or prospective infection, liberation of the adherent bowel is called for; and in both instances a matter of much interest is, What shall we do for the relief of the distended bowel? In the opinion of many, it is not sufficient to liberate the bowel; peristalsis is not immediately, in all cases, and not at all in some, renewed; and we have still left the intestinal tract full of septic material to be absorbed or be diffused by the migration of pathogenic germs. In the opinion of some, it is not sufficient to irrigate and drain the abdominal cavity in cases of septic peritonitis and septic paresis; the peritoneal cavity may be washed clean, but a storehouse of infection is left in the paretic intestinal tube. The question of enterotomy, and possibly of enterostomy, is in such cases a vital one; and without an enterotomy or enterostomy, we have only done part that is needed.

Treatment is centered in the prophylactic and curative. We can do much toward preventing intra-peritoneal adhesions by careful work. More and more the importance of covering all surfaces abraided of endothelium, and especially the ends of stumps or ribbons of omentum, is being appreciated. The value of plastic work to close the pockets, bridge over abrasions, is all important and duly recognized.

Preventive Means—Of course, in all cases we cannot accomplish ideal plastic work. But the careful surgeon looks to his sutures to see that no wandering knuckle is snared; that damage is not done the intestines in dragging up and tieing of adhesions; pulls down the omentum well behind the line of sutures; replaces the intestines as nearly as possible in their normal relations, keeping in mind the possi-

bility of ileus from volvulus; repairs rent in the omentum or mesentery; handles as little as possible the intestines, and exposes them for as short a time as is consistent with rapid and complete work.

Various expedients have been advised to do away with the chances of adhesions. Notably, Dr. Robert T. Morris uses on denuded surfaces a thin coating of aristol powder; Dr. Augustus Martin wipes out the pelvic cavity with a sponge saturated with sterilized olive oil. As far as we know, this practice has not been accepted as free from danger, or even to a reasonable extent preventive of adhesions.

The use of the actual cautery is also a practice, as far as I have been able to ascertain, of questioned safety and utility.

The idea is becoming almost universally fixed in the minds of operators that strong antiseptic solutions in the abdomen destroy the endothelial covering of the delicate peritoneum, increase the chances of plastic and septic peritonitis and intestinal obstruction incident to both. Normal saline solution or sterilized water alone is rapidly taking the place of antiseptic irritants, and one of the most striking advantages is that it does not devitalize the tissues with which it comes in contact. Germicides do not destroy the pathogenic germs, but do destroy the endothelial covering of the peritoneum and very much lessens the resistance of the peritoneum to septic infection.

Flushing.—There is great diversity of opinion in regard to the advisability of flushing the peritoneal cavity. Many whose opinions merit consideration decry the practice, even with unquestionied soiling of the peritoneum, claiming that the poison is diffused by flushing, and can be better eliminated by mopping the parts dry. Apart from the good by flushing in removing hurtful debris, it is claimed that flushing does good by reducing shock, and by allowing the intestines to float and resume their normal position in the abdominal cavity.

Dr. Frederick H. Wiggin advances the idea that it may be possible to limit or prevent the formation of adhesions

by filling the abdominal cavity with a sterilized saline solution—0.6 per cent.—and closing the abdomen with this fluid left in it. Of course, the idea is, that the floating, moving bowels would not adhere.

Schiffer, in a paper read before the Leipzig Obstetrical Society, comparing the results of moist and dry asepsis in abdominal section, arrives at the conclusion that where the latter (dry) is adopted, there is less disturbance of the normal peristalsis than with the former (moist). He believes that when the peritoneum is kept moist, its endothelium is less apt to be destroyed and adhesions are rare, and the normal absorptive power of the membrane is preserved, whereby culture media for germs are removed.

To minimize, as far as possible, morbid changes in the peritoneum, of course, an aseptic operation is a prerequisite. A clean surgeon, instruments, patient, etc., guard against sepsis, intestinal paresis, and obstruction.

Post-operative occlusion has recently been carefully studied by Dr. Adenot. He concludes that "a certain considerable number of post-operative occlusions of the intestines are due to the physiological impermeability of the left subcostal angle of the colon. When the small intestine is placed in a plane posterior to the angle of the colon, this angle is not compressed, and its permeability is less liable to be interfered with. Catheterism of the rectum with Faucher's tubes may succeed in some cases, whether associated with gases or fluids or not in relieving the strictures. The introduction of a flexible tube is not always feasible, as it may become folded up in the rectum.

"During a laparotomy, it is advisable to displace any portions of the small intestines that threaten, from their position, to compress the colon at this angle by its distension. It appears preferable to purge mildly from the first to the third days after the operation to prevent the recurrence of a marked meteorism. Meteorism of itself is a cause of impermeability of the left subcostal colic angle. If an occlusion should form after the laparotomy, one should not hesitate to reopen the abdomen."—*Amer. Jour. Med. Science.*

Abdominal Bandage.—Not a few abdominal surgeons think they see in the abdominal binder a cause of adhesions, twists, and obstruction. There can be no question that the abdominal binder, as usually applied, does restrain movement of the abdominal organs and favors adhesions; but whether the good it does in supporting the abdomen is not an adequate offset to the danger of obstruction, is an unsettled question.

No Opium.—Dr. Joseph Price, has, upon several occasions, urged the dangers of opium, in any form and for any condition, after abdominal sections, and this is but one of the many advanced doctrines for which the profession owes him a lasting debt.

Dr. Mathew D. Mann says: "One bad result of morphine is its effect on the intestines, stilling peristalsis, and making the intestines liable to form adhesions. I have lost two cases from obstruction of the bowels after laparotomies, and in each case adhesions to the stumps after operation made a sharp angle in the intestines. I think if no morphine had been given to these patients, particularly during the first twelve hours, until the intestines had had time to rearrange themselves after the operation, the obstruction of the bowels would have been less likely. * * * The intestines are paralyzed by morphine."

Turning the Patients Upon their Side.—The custom of keeping laparotomy patients flat on their backs for several days is condemned by some good men, who prefer to turn them upon their sides from time to time, with the conviction that this lessens the chances of adhesions and helps the bowels to rearrange themselves.

A free action of the bowels or discharge of gas is an omen of the greatest comfort to the abdominal surgeon. It should be remembered, however, that an obstruction high up may allow the escape of fæces and gas from below. Purgatives after laparotomies do good in many ways: the active peristalsis rearrange the bowels, loosens soft adhesions, perhaps even uncoils matting of the bowels, certainly sweeps out the great intestinal sewer and lessens the danger of sepsis. Of unquestioned value prior to and as a prevention

of obstruction, either mechanical or septic, they are of unquestioned injury when intestinal paresis from any cause exists. Purging is considered such an important matter that some go so far as to urge the beginning of small doses of calomel as soon as the patient is put back to bed, and very few question the good effects of an action within the first twenty-four or forty-eight hours.

It has been advised to interpose some *absorbable animal material between intra-peritoneal raw surfaces that* cannot be covered by suturing. Thin sections or layers of sterilized peritoneal tissue from the lower animal have been used, but not sufficiently often to merit more than a passing notice.

Quick Operations.—Incomplete intra-peritoneal work is much to be deprecated, and time spent in plastic work is time well spent; but Mr. Treves and others dwell upon the advantage of finishing all serious operations as quickly as possible. There can be no question that prolonged anæsthesia, profound shock, hæmorrhage, etc., incident to prolonged operations, lessen the general and local resistance of tissues, and especially in abdominal work, increases the chances of sepsis by the lessened tissue resistance. "Slow work generally means bad work."

Treatment Curative.—How to deal with post-operative obstruction, depends to some extent upon the cause of the obstruction and the time after the operation at which it occurs. It is not easy to lay down exact lines of treatment; they must vary widely in detail in different cases.

It is a serious matter to urge operative interference while the patient is depressed from a recent laparotomy, but it is a very much more serious matter to let the patient alone. If the obstruction is mechanical, or even septic, and occurs early after the operation, before the adhesions are strong, or the septic infection and paresis profound, in the opinion of some, purgatives and the excitement of peristalsis may do good, by unflexing or unanchoring a portion of bowel, or by cutting short septic infection; by others, it is urged that little good is done by purgatives *after* obstruction or sepsis. This is an open question; but valuable time is lost in

waiting for the action of purgatives, and it is probable that this questionable treatment resulting in delay is the direct cause of more deaths than recoveries. The usual rule is to give grain doses of calomel every hour and follow it by salines by the mouth and high enemata of glycerin, salts, and turpentine; also the administration of purgatives by the stomach-tube if the vomiting is excessive. A great many surgeons urge the value of washing out the stomach preparatory to operative interference and as a relief of excessive vomiting.

A majority of surgeons, under the probable mistaken idea that it is conservative, temporize for awhile with purgatives. In the opinion of not a few, the time for operative interference is not after hours of treatment with calomel, salts, etc., *but right now*—as soon as a reasonable conclusion that obstruction exists is reached. In a few hours, the damaged wall of the anchored bowel may allow septic infection to pass from the intestinal tract to the peritoneal cavity; in a few hours, septic paresis of the bowels may occur; in a few hours, pathological conditions, and not mechanical, demand our attention.

Mr. Treves reminds us that "it is well in the acute forms of intestinal obstruction to hold in mind that the patient is not dying because a band or an adhesion presses upon the bowel; that the urgency depends upon the extreme engorgement of the bowel above the site of the obstruction and also the fact that the constricted or paralyzed portion is filled up to the very stomach with a foul and feculent fluid, by which the patient is being poisoned. The gut is paralyzed, the normal reflexes are lost, there is no peristaltic wave to free the many bands and twists which must be undone to secure a free passage, and the patient dies with some pints of the foulest and most putrid matter still lodged in a viscus possessed with an instinct to abort its contents.

The question of doing an enterotomy, and possibly and preferably an enterostomy, is an important one. In desperate cases too much depressed to stand prolonged search for adhesions or even irrigation, an enterostomy will give

temporary relief, and tide the patient over the immediate crisis.

While the mortality after operative interference in intestinal obstruction, ante- or post-operative, is frightful, it offers practically the only hope.

Statistics, under opium, bowel and stomach irrigation, etc., should make us shrink from expectant treatment unless we can exclude beyond all question the possibility of obstruction. Conservatism in acute septic or mechanical obstruction means death. The only rational remedial course is early operative interference.

ART. IX.—Comparative Cost of Construction of New York Insane Hospitals and Western State Hospital, Staunton, Va.

By BENJAMIN BLACKFORD, M. D., Staunton, Va.

MEDICAL SUPERINTENDENT WESTERN STATE HOSPITAL.

Without desiring to pose as one of the reformers who now are so conspicuous in all walks of life, I cannot help asking for your assistance in laying before my professional brothers, and through them the public, certain statements, comparing the cost, paid by said public, of the building of hospitals for the insane in two States of our Union, which States may be taken, perhaps, as typical of the sections they belong to.

It is necessary that I should refer to the difference of condition between the two States, the expenditures of which I am about to compare, because the taxpayers of wealthy and prosperous New York, may look with eyes different from those of Virginians, upon what seems to us the most lavish and unnecessary expenditures in the erection of State Hospitals for the Insane.

I take my statistics from the Sixth Annual Report published by the Commission of Lunacy of New York, as to that State, and for Virginia, from the bills and accounts of the stewards of the Western State Hospital of Virginia, at

Staunton. Our institution has, within the last eighteen years, made the largest provision in various kinds of buildings of any of our State Hospitals, and under the direction of our architect, Mr. J. C. Neilson, of Baltimore, one of the most distinguished hospital architects in this country, whose journal of buildings carefully compiled during those years, gives a detailed and accurate history of the renovation and extension of the buildings which have enlarged the capacity of our Institution from about 300 to 857 patients.

There are in New York nine State Hospitals, comprising what is there called the State system.

The following table gives the cost of the buildings alone of those hospitals up to the present time and their capacity:

From	Hospital	Capacity.	Cost.
1836	Utica	939	$1,451,882.02
1865	Williard	2,161	1,741,199.00
1867	Hudson River	1,429	2,280,675.46
1870	Middletown	1,047	1,139,764.33
1870	Buffalo	724	2,250,496.95
1879	Binghampton	1,219	868,798.99
1887	St. Lawrence	1,100	2,375,976.81
1891	Rochester	435	358,839.00
1857	Matteawan	458	1,095,542.53
Total		9,512	13,563,174.09

The per capita cost of buildings for the nine hospitals is $1,425.00.

St. Lawrence Hospital commenced as an institution of moderate cost, but it seems, although one of the latest and built with the help of experience, has been one of the most expensive of the nine, costing per capita $2,160.

It is not to be doubted that the buildings of the St. Lawrence are handsome, probably fire-proof, so-called, that the farm of about one thousand acres is judiciously cultivated, and the grounds, in fact, that the whole Institution is decidedly an ornament to the country. But the question before the paymaster public is, Does it require these methods and the expenditure of millions to maintain in comfort during the experiment of cure, eleven hundred afflicted persons?

Living as I do, in charge of an Institution of more than three-quarters the capacity of the St. Lawrence Hospital, but provided with buildings designed only with the object of supplying in a moderately attractive shape, accommodations of the most liberal size, of solid construction in brick, warmed and ventilated in the most perfect manner, and surrounded with beautiful grounds, all of which things were obtained at a cost differing so largely from the outlay at the St. Lawrence Hospital, as to excite wonder, and to induce me, in the interest of the unfortunate beings under our care, to declare that they need not be made such a heavy charge on the public purse.

In regard to the annual expense of maintenance of these nine hospitals, the relation of cost to the maintenance of our hospital is much closer.

The maintenance of the New York State Hospitals is quoted $1,767,274 or $190 per year for each patient. Our patients in this hospital cost per year (last year) $137.35 per capita—which included clothing and absolutely everything for their comfort in a county of about the same resources, and consists of about the same dietary, with perhaps a more liberal supply of milk, butter and butcher's meat.

Coming now to a comparison of the buildings in which our patients are lodged, and all the various demands for them, for the employees and the work of the Institution supplied, we have the fact that, as I said before, in the last eighteen years, the capacity of our hospital, has been much more than double in accommodation for patients, resident officers and all employees The plant of certain important services, as steam heat and laundry, have been renewed on a large scale, and the water supply greatly increased and assured. We have added fine large pavilions with about 520 beds, and added to the older buildings enough to bring up the number to 857—from a little over 300. We have built a complete steam plant, with a brick chimney of 130 feet above the breechings and adjacent to

the power-house, store-rooms, workshop, and lodging-rooms for all the employees of that service; have laid new connections to all the buildings, starting through a large brick tunnel of about 500 feet in length. We have a new laundry ample in size and in machinery for double our population, all new and capable of from 15,000 to 20,000 pieces per week washing. To this building is a residence house to contain all the accommodation, including dining-room, for the laundry people. We have built new flights of cut granite steps to the numerous terraces and a fire-proof covered way of considerable length; new gas-making works and large additions to the minor buildings, such as coach house, soap-boiler's shops, cold storage, etc.; and we have spent on these works $122,000 dollars, including in this sum a fair value for the work done by the patients. These constructions do not constitute an entire hospital. We started to make them with half of the grounds in a fair order, and with the roads, buildings and enclosures of nearly seventy years ago. To replace the buildings and partly the enclosures, some of which have become unnecessary, and roads in use, would require $161,000, added to the former sum and would bring the total investment for the hospital, exclusive of the ground, to $283,000 as estimated by our architect, less than one-eighth of the cost of the St. Lawrence hospital, which is also without the land.

I have prepared this paper solely with the view of informing the tax-payers of Virginia in regard to the comparative cost of buildings for the accommodation of our insane with the cost of other States, notably, New York. It will be seen that both in construction and in maintenance there is an unwavering line of economy practiced, which reflects great credit on the general management by the Board of Directors, who are the representatives of the people, in charge of this hospital; and I have no doubt it is the same with other insane hospitals of the State, which should be a source of congratulation rather than of fault-finding.

Art. X.—Two Curious Cases. (I.) Eczema? (II.) Descended Third Testicle?

By GEORGE WOODSON SCOTT, M. D., Madison Run, Va.

LATELY ASSISTANT PHYSICIAN, DEPARTMENTS OF PRACTICE OF MEDICINE, AND DISEASES OF THE NERVOUS SYSTEM MEDICAL COLLEGE OF VIRGINIA DISPENSARY.

About eighteen months ago I was called to see Mr. W., who had been a "Section Boss" on a railroad for about thirty years. Upon my arrival he told me that twenty-seven years previous, he had gone to stool on the bank of the railroad, and in place of toilet paper, he used a plant, that grew in great abundance about the place, called "dog's-fennel," or corn-camomile. He noticed no disagreeable effects for a day or two, but on the third day the itching around the anus was almost unbearable, followed by a papulous eruption, which rapidly spread to the scrotum, penis and buttocks.

It would be impossible for me to give an accurate description of the disease then, or of its course afterwards. I can only state the case as I saw it. He said he had been under the treatment of ten doctors since the appearance of the malady; had taken gallons of medicines, and used quarts of salves and ointments, but had never been relieved in the slightest degree.

On examination I found nearly every inch of his skin, below his collar, and above his shoes (it being a singular fact, that neither feet, face, neck, or hands were at all involved), in a more or less inflamed condition. Some parts were much worse than others. Places the size of a five-cent piece were thickly scattered over the entire body and extremities, considerably raised, scabby in some places, raw and bleeding in others from the constant scratching. At times the skin would be dry and crusty; at others, covered with an eruption simulating poisoning from rhus toxicodendron.

At times it would largely disappear and suddenly return with renewed energy, and at all times accompanied by the most intense itching. His general health was good, and he was the father of several healthy children, and I could find no plausible grounds for suspecting syphilitic taint, or any other hereditary trouble.

I must confess the case baffled me to some extent, and I had little hope of being able to benefit him.

As to the diagnosis, I am still undecided, but think it must have been one of the forms of that dreaded malady, eczema, resulting from (in some unknown way) the dog's-fennel, for I hardly think the poison from that plant would have lasted through twenty-seven years.

Being in the country at the time, some distance from a drug store, and realizing the fact that eczema was such an uncertain disease to cure, I concluded to use something from a medicine case I had with me. My main object at the start was to relieve the itching, so I decided I would try a mixture of cocaine and lard, using twenty grains to the ounce, and directing that it should be rubbed on one thigh, once a day, till I saw whether the absorption of the drug would cause any inconvenience. I found that two applications thus applied during the twenty-four hours caused no trouble whatever, when applied to one-half the body at a time. I never ventured to cover more surface than that at one sitting, and I am sure that a great many individuals, probably the majority of them, would not be able to stand so much cocaine being applied to a partially abraded surface.

The itching stopped almost immediately, and the eruption commenced to disappear in a few days, and scabs and scales to drop off, and by the end of the third week, he thought he was well and stopped the treatment. All this time nothing else had been used, as I was so much interested in the treatment (from which I expected nothing except to relieve the itching at the start.)

But about three weeks after the treatment was stopped, the trouble returned with increased severity. I then saw that wholly local treatment would not answer, so I formulated the following treatment, which resulted in a perfect cure, and he is a well man now—eighteen months from the time I saw him.

I directed him to use a 1:1000 solut. bichlor. mercury as a lotion, rubbing it in well with a coarse towel, then apply

the cocaine ointment as before, using both twice a day. Internally, I alternated between Donovan's solution and Fowler's solution, giving eight drops of each after meals; one being given one week and the other the next.

Richard D., colored, consulted me at the Dispensary about the middle of February last. His statement was as follows: "About three years ago, I noticed some enlargement on each side above the testicles, accompanied by some pain. As the growth, or whatever it was, increased, the pain increased also, until it became almost unbearable. About the same time I lost my 'courage' and since that time, I have been absolutely unable to have connection with a woman." He said the growths had gradually increased in size, and descended lower in the scrotum, until he felt as if he had four testicles.

I made a most careful examination, and found on the right side a hard body, very much the shape of a testicle, situated in the pampiniform plexus, but no separate cord or appendages. On the left side there was a perfectly developed testicle, with spermatic cord and membrane, all intact, as far as digital touch was able to discern.

Never having heard of a case of *multiple testicles*, as I suppose this case might be justly called, until it is proven to be otherwise, I decided I would call in other members of the "Dispensary staff" to examine the case with me. Dr. Kuyk, the superintendent, and Drs. Teüsler, Beadles and several students in the graduating class, made a close examination. The majority of those present thought that the growth on the left side must be a testicle (at the same time, however, did not see how such a thing could be possible), but were unable to account for the one on the right.

I was somewhat of the opinion that it was something of a cancerous nature, but of course could not come to any positive conclusion. At the time I saw him, the pain had entirely ceased, and there was no tenderness on pressure, but his erectile powers were still entirely absent. There was no sign of varicocele, hydrocele, or any other complication, and I can most positively assert that there was no form of hernia, for I examined very carefully and minutely for that trouble. The penis had a shriveled, atrophied appearance, and had been gradually growing smaller since the onset of the trouble. He was a man of reasonably good muscular development, and he said his health had been, and was then (with the exception of the pain in his testi-

cles), as good as one could desire—never having been sick more than a day or so in his life. His mind was perfectly clear, and his memory good.

Thinking that any kind of an operation would be utterly useless, and his refusal to submit to it also, caused me to give that up altogether, and turn my attention to therapeutic measures, for the regeneration of his "lost courage," for knowing the negro as I do, I knew it was the worst calamity that could possibly have befallen him. Iron, quinine, strychnine, phosphorus damiana, and canabis indica were used, some separately, others with various correctives and adjuvants, and lastly by cantharides, but after a long and systematic course of treatment, failure was my reward, and when last seen he was in the same condition, as far as his erectile powers were concerned, but suffering no discomfort. The testicles (?) remained the same.

These cases have been as accurately recorded as my notes and memory would allow. They are certainly peculiar, and furnish a field for thought and discussion, and should any one who happens to read this article know of any similar cases, the causes and the consequences, they would be doing the profession and myself a great favor by reporting the same, for I must confess I do not understand either of them.

Art. XI.—Rational Treatment of Acute Malarial Poisoning. A Plea for Abandonment of the Abuse of Mercury.*

By N. L. GUICE, M. D., of Meridian, Mississippi.

Ex-President of Mississippi State Medical Association; Member of the American Medical Association; Member of the American Public Health Association; Member of the Medical and Surgical Society of Mississippi. Etc.

Doubtless many members of this Society think it a waste of time to listen to anything pertaining to the treatment of acute malarial poisoning. In fact, you have already acquired a satisfactory knowledge of this subject, and hence have ceased to make any further investigation of the same. It is even supposed by some that many farmers or heads

*Prepared for the Medical and Surgical Society of Mississippi.

of families are competent to treat an average case of malarial fever. It is a fact, however, that non-professional people do not possess the skill thus ascribed to them; and if they shall be judged by their contributions to the pages of medical literature, it is evident that many practitioners of this country are defective in *their* knowledge of the subject.

One prominent error in the treatment advocated is based upon the ancient and antiquated idea that the liver is so seriously involved that special treatment must of necessity be directed to this organ. This idea is so widely diffused that it is the (practically) universal custom to commence the treatment of every case of malarial poisoning, whether acute or chronic, mild or severe, with large doses of calomel. In fact, many await the action of the mercury before commencing the quinine,—the acknowledged specific in all acute malarial fevers.

The *materies morbi* in malarial poisoning, as described by Laveran, in 1881–'82 and subsequently confirmed by Marchiafava, Celli and others, is known as the *plasmodium malariæ*. These are amœboid and pigmented bodies which are described as (1) crescentic pigmented bodies; (2) pigmented bodies in the interior of the red corpuscle which undergo changes in form described as amœboid; (3) a pigmented flagellate organism. These forms were regarded by Laveran as phases in the development of an infusorial organism.

It is needless to dwell here upon the subject of the symptomatology of malarial fever. This, it is safe to presume, is well known to occupants of malarious regions. Neither is it necessary to consume your valuable time with a description of the pathology or prophylaxis of the same. All that is known of these subjects may be easily learned from modern text-books.

TREATMENT.—In the "Cotton Belt" of this country, the majority of cases of acute malarial poisoning occur in the form of simple intermittent and remittent fever; in both, the attack is ushered in with a chill or cold stage of vary-

ing intensity. Should the chill be severe or protracted, a hypodermic injection of morphia and atropia is a very efficient remedy. Other remedies, such as chloroform by inhalation or by the stomach (ʒj in the latter form), nitrite of amyl inhalations, and artificial heat are useful. Should the stomach be loaded, an emetic is indicated; this will aid in shortening the chill, and will also modify the severity of the febrile stage. Pilocarpine has been recommended for the chill, but I have had no experience with it, and hence know nothing of its utility. But the remedy for acute malarial poisoning is *quinine*. In fact, it is practically the antidote to malaria, and as such should be given early and continued to the termination of the attack. I have often given it with great advantage in the cold stage; in fact, there are no rational grounds for withholding it in this stage where the stomach is retentive; but it is usually not expedient to give it in this stage because of the presence of nausea or vomiting.

If constipation be present, a moderate dose of some simple laxative or purgative (*e. g.* Epsom salts or seidlitz), would be indicated to facilitate the absorption of the quinine; no purgative is needed, however, where the bowels are moving naturally, as in that case there would be no obstacle to the absorption of the quinine. The universal habit of torturing the patient with calomel is superfluous, and in fact often injurious.

Dr. Austin Flint, Sr. (*Practice of Medicine*) says truly of purgatives in this connection: "They are required only to overcome constipation, and generally simple enemata or mild laxatives will suffice for the object. The proper and most important thing to do in the treatment of malarial fever is to bring the patient under the influence of quinine without previous preparation or delay, and then to keep up the effect by continuing its use in such doses and at such intervals as will maintain this influence so long as may be necessary."

In the treatment of *remittent fever*, it is best to commence the administration of quinine at least as early as the very

inception of the pyrexial stage by giving five grains, preferably in capsule. This dose should be repeated in one hour, and again in two hours. By this method the patient receives gr. xv in three hours, which brings him comfortably under the influence, after which he should take five grains every three or four hours until twenty-five to forty grains are given in the first twenty-four hours,—the adoption of the minimum or maximum quantity being governed by the character of the symptoms or severity of the case. In the second period of twenty-four hours the same dose is given every four hours regardless of the presence or absence of fever, to the extent of twenty or thirty grains; and thus the quinine is continued until the fever is arrested, which is accomplished in the majority of cases on the *second day*, and often in fact on the *first day*. As an aid to the management of the pyrexial stage, (and the fever often ascends to 105–6° Fahr.) I usually give with the first dose of quinine, ¼ gr. of morphia hypodermically to control headache, restlessness or other symptoms referable to the nervous system; this may be repeated *p. r. n.* Morphia given in this manner promptly relieves headache, muscular and other pains to which malarial fever patients are subject; and, by reason of its influence over the vaso-motor system, it induces diaphoresis which, being further stimulated by the free use of quinia, adds materially to the process of shortening the febrile stage. It is a palpable error to suppose, as is maintained by writers on the subject, that morphine "locks up" the biliary and other secretions in this disease; on the contrary, it facilitates all of the more important secretions by reason of its admirable influence over the vaso-motor system as I have demonstrated at the bedside in hundreds of instances. In truth, it would be difficult to over-estimate the value and efficiency of morphine when properly administered in malarial fever, whether simple or pernicious. In the presence of high temperature, phenacetin or some other agent of its class may be given; also ice to the head, cold or tepid sponging, or pouring cold water over the scalp. No purgative or other preparatory treat-

ment should of necessity precede the quinine in remittent fever; but, should the bowels be constipated, a simple purgative like Epsom salts or Hunyadi water should be given about the time of giving the first dose of quinine; often indeed, an enema will empty the bowel satisfactorily. Where the fever continues beyond the first day, laxatives should be given *p. r. n.* in case the bowels be not in a soluble condition.

In the more severe cases, the commencing dose of quinine should be ten to fifteen, instead of five grains, in order the more promptly to inaugurate the full or adequate influence of this specific; and, in the presence of danger, the quinine should be given hypdermically until the improved state of the patient shall suggest the safety of giving it by the stomach. Occasionally a case of remittent fever is encountered which appears to resist the action of the quinine, or will continue in spite of our usual efforts. In such cases a tablespoonful of Warburg's tincture three times daily is often efficacious. In such cases, too, warm bathing or the wet pack have given good results in my hands. When convalescence is established, one dose of five grains of quinine should be given daily (preferably before breakfast) for a period of ten to fourteen days. This will often prevent a recurrence of the fever on the seventh or fourteenth day—a phenomenon to which these patients are very prone. Should the fever leave the patient in an anæmic condition, an iron tonic should also be prescribed.

In the treatment of *intermittent fever*, the disease may be promptly arrested by giving fifteen to twenty grains of quinine daily for two or three days. This may be given in divided doses (which is the better method) or in one dose at the option of the prescriber. Five grains given morning, noon, and night will promptly arrest almost all cases, provided the anticipated paroxysm be not expected within twenty-four to thirty-six hours from the inception of treatment. Otherwise, larger doses or shorter intervals should be prescribed. In the presence of constipation a laxative or purgative should be given as recommended for

remittent fever, and the pyrexial stage should also be managed as advised for the latter disease. Upon arresting the the paroxysms in intermittent, one dose of five grains of quinine should be given daily as advised for remittent fever. In all cases of intermittent, where the patient has had one or more relapses or recurring attacks, a pill or capsule composed of ferri sulph. exsic, gr. i–ij, quiniæ sulph. gr. i–ij, and acid arseniosi, gr. $\frac{1}{20}$th, should be given three times daily after meals for a period of twenty to thirty days to prevent the development or continuance of the disease, as the case may be in the form of chronic malarial poisoning. This is a matter of no little importance when we consider the great tendency to chronic malarial poisoning in this class of patients.

For practical purposes it is expedient to divide *pernicious fever* into two forms only, to-wit: (1) the algid form, in which there is congestion of the abdominal and thoracic viscera, and (2) the cerebral or comatose type, wherein the force of the disease is concentrated in the great nervous centers. The latter is by far the more common form of pernicious fever.

In the treatment of pernicious fever, no time should be lost in giving or awaiting the action of purgatives, or in fact of any other preparatory treatment. As is truly said by Bartholow (*Practice of Medicine*): "In any of the modes in which the attacks come on, the remedies are two—morphia and quinia—and the mode of administration subcutaneous." In the *algid form*, the patient should receive first ten to fifteen grains of quinia, one-quarter grain of morphia and one one-hundreth of atropia hypodermically, and, if desired, in combination. Upon the administration of this dose, attention may be given to the application of artificial heat, frictions with mustard, etc., to aid in bringing about reaction, in which process the morphia and atropia are second only in value to the quinia. The morphia is also vastly useful in stimulating the struggling heart and in checking the choleraic (alvine) discharges which are so prostrating and so commonly present in this

type of the disease. Should this symptom be persistent, plumbic acetate may be given in three-grain doses by the stomach, as an aid to the opiate in this direction. The patient should be kept moderately under the influence of morphia by means of the judicious repetition of the dose until reaction and a condition of safety shall have been established; but the use of these and other adjuncts should not occupy the time or attention of the medical attendant to the exclusion, or even temporary neglect of the quinia, which is truly the *sine qua non* in all cases of pernicious fever; and in the stage of depression, it is imperatively demanded, being, as it is, the most reliable agent for bringing about reaction.

At the expiration of about one hour from the first hypodermic of quinia another should be given of about the same quantity, and it should be continued in this manner at intervals of one, two, or three hours until reaction and other evidences of improvement shall have been established, after which, the dose should be reduced or the interval lengthened—the object being at this juncture to maintain an adequate influence of the remedy until the period of danger is passed. Then it may be given by the stomach and continued thus into convalescence. Usually twenty to forty grains given hypodermically in the dose of ten grains every hour or two hours, according to the urgency or obstinacy of the particular case, will suffice to arrest the graver symptoms.

As previously stated, the *cerebral or comatose type* of pernicious fever, is of far more frequent occurrence in this country than the algid form As in other types of malarial fever, the patient is first seized with a chill of varying intensity; this is immediately succeeded by fever, and the temperature is apt to run high. During this febrile stage, the patient falls into a stupor, which gradually deepens into profound coma, which is the more dangerous because it may resemble and be mistaken for natural sleep.

On the first day of the attack, the patient usually rallies, during the sweating stage, in twelve to twenty-four hours;

or the coma may deepen and the heart become more and more depressed until death closes the scene. But should the patient rally from the first paroxysm, whether intermittent or remittent, he is apt to succumb to the second. In other cases, this fever may assume the appearance of maniacal delirium, or it may affect the brain and spinal cord simultaneously, and clonic and tonic spasms may supervene. But, however desperate the picture presented by the patient in pernicious fever, the fact should be remembered that the proper application of the remedy (quinia) may speedily change the indications from that of rapidly approaching death to one of such character as will inspire the hope of certain or probable restoration to health. This fact I have often witnessed in this truly formidable disease.

In the comatose form, the treatment is much the same as for that of the algid type. Quinia is the sheet-anchor, and every moment that it is withheld can but add to the peril which surrounds the patient. The best and safest plan is to give the quinine hypodermically, at once, and in effective doses. Ten to fifteen grains should be administered in this manner and repeated in one or two hours (usually the former interval) according to indications, until the patient shows evidence of improvement, or of unmistakable cinchonism, after which, the interval should be lengthened or the dose reduced to five grains, or to such limit as may be relied upon to maintain this, or a sufficient influence.

In the great majority of cases, the patient will improve rapidly under this treatment, and upon the subsidence of symptoms indicative of danger, the quinine may be given by the stomach and continued thus into convalescence.

Usually vomiting, coma, or delirium is so pronounced in the inception of treatment as literally to prohibit any other than the hypodermic mode of medication. But even in the absence of these or other impediments to the oral method of medication, the well known danger of pernicious fever should warn us against reliance upon any other than the hypodermic syringe. Even in cases of algid

congestion, with its attendant vital depression, nothing is so effective as quinine, hypodermically, to bring about reaction, which is doubtless due to its destructive action upon the plasmodium malariæ. It is an error (as advised by some of our best authorities) to give as much as sixty or seventy grains of quinine at a dose in pernicious fever. Such doses are uncalled for and are calculated to do mischief. It is far better to employ smaller doses at short or suitable intervals. In the comatose type, a purgative should be given, but a mercurial purge is not called for in this, any more than in other forms of malarial poisoning. Should the patient be unable to swallow, an active purgative enema would probably effect an adequate result. Coma and high temperature should also be specially looked after. For the former an ice-bag or cold water poured from a pitcher upon the head at intervals will be beneficial; the hot mustard foot bath is also a useful adjunct. Cold or tepid sponging, the wet pack, the general or tepid bath will aid in reducing temperature. Phenacetin or other antipyretics of its class should be used with caution, if at all, owing to the usually attendant cardiac depression.

Morphine is often beneficial when properly employed in this as in other types of malarial fever; nor is it contraindicated by reason of the presence of coma. When called for, one-eighth to one-quarter of a grain given hypodermically will promote diaphoresis, control restlessness or convulsive tendencies, and will prove vastly serviceable to the heart when struggling under depression as it so often does in this condition. But whatever may be said of morphia or other adjuncts to the treatment of this, or in truth of any other form of malarial poisoning, the following terse and appropriate paragraph from the *Reference Hand-Book of the Medical Sciences* should be well remembered and rightly applied, to wit: "Other symptomatic treatment, both early and late, will be employed by the intelligent practitioner according to the indications of the case. But the great thing to remember is that no treatment of 'biliousness' by mercury, nor of the fever by antiphlogistics or re-

frigerant mixtures, by cold water or aconite, or gelseminum, or anything else in the wide world will do any good unless accompanied by large doses of quinine."*

The treatment, as above detailed, is adapted either to the intermittent or remittent type of the disease; but the former is more manageable than the latter because of the brevity of the paroxysms and the opportunity afforded for treatment pending the intermission. But it would be nothing short of criminal to withhold the quinine in this form of pernicious fever with the view to await the subsidence of the paroxysm; as in the remittent form, the quinine should be given promptly and freely so as to establish the protective influence of the remedy within the space of three or four hours. This will insure the successful termination of the existing paroxysm, and subsequently during the quiet interval of the intermission the quinine is continued in quantities sufficient to ward off a subsequent one.

While I have not incorrectly advocated the hypodermic use of quinine in all cases of congestive fever, it is proper to state that a mild type of the disease is occasionally encountered wherein the absence of urgent danger and the capability on the part of the patient to swallow and retain the necessary remedies are apparent. In such cases I have given the quinine by the stomach. In others again where the condition is threatening, I have given the first ten to twenty grains hypodermically, notwithstanding the function of deglutition and the retentive capacity of the stomach remained good and reliable. This course I have adopted in order to secure the prompt and assured action of the quinine, which is warranted by reason of its speedy absorption when administered in this manner. But the judgment and acumen of the physician is needed in the selection of such cases as may be trusted to oral medication. When the patient has entered well into convalescence a capsule or pill of quiniæ sulph. gr. ij, ferri sulph. exsic., gr. ij, and acid arseniosum, gr. $\frac{1}{20}$th, should be given three times daily, and

*Malarial hæmaturia is an exception to this rule.

continued so long as may be necessary to overcome the anæmia which almost uniformly follows pernicious fever. This special tonic combination, too, is peculiarly adapted to these cases by reason of the fact that it will prevent a relapse of malarial fever, or the development of malarial cachexia if given for a sufficient length of time.

Many physicians will not use quinine hypodermically on account of the fear of bad or painful consequences to the patient. I am *positive* that this position on their part must often operate to the detriment of their patients in malarial fever. While I do not advocate the reckless and unnecessary use of quinine in this manner, the fact must be admitted that many cases are encountered wherein any other mode of medication would prove utterly inadequate. In some cases the quinine may be given by the rectum, but in the presence of danger the hypodermic syringe should be employed as offering the greatest security, if not the *only safety* to the patient. Often in malarial fever I have rescued patients from speedy death by the hypodermic use of quinine where any other method of applying the remedy would have proved utterly futile.

Notwithstanding the well known fact that painful cellulitis, abscess, and even (though very rarely) tetanus has followed the hypodermic injection of a solution of qunine, I maintain that this fact should be ignored, and the trifling (as I have found it) risk assumed in dangerous conditions, as also where deglutition is impossible or impaired, as is so often the case in coma or delirium; or where the stomach refuses to retain or absorb the quinia. Often, in fact, the life of the patient cannot be otherwise saved. While I have given hundreds of hypodermic injections of a solution of quinine, I can say with absolute truth that I have not in a single instance witnessed bad results therefrom. I have given these injections to patients of different ages, ranging from two years to eighty. Twice I have witnessed a very small abscess and these healed promptly after incision. Other abscesses may have formed but for my prompt treatment of the commencing cellulitis with lead lotion, the hot com-

press, etc. This treatment should be promptly applied in all cases where inflammation is set up by the hypodermic injection.

Injections of the quinine solution should be given preferably in the front and lateral regions of the thorax and abdomen, the outer surface of the thigh or leg, and dorsal surface of the forearm. The operator should be careful to carry the point of the needle entirely through the skin and subcutaneous (areolar) tissue so that the solution shall be deposited in the elastic fibrous structure which unites the areolar tissue with the adjacent muscles. The elastic and yielding nature of this fibrous structure is such as to preclude the infliction of violence to the parts in the shape of severe tension or laceration of the tissues. This is an item which should not be forgotten when about to inject into the tissues as much as fifteen minims, or even less, of any fluid. Thorough asepsis should also be observed in giving every hypodermic injection.

For hypodermic use I have uniformly employed an acid solution of the sulphate or bi-sulphate of quinia, the latter being preferable because it is more soluble and hence requires less of the acid to effect solution. The following formula is about the best:

℞.—Quinia bi-sulphat..... ʒj.
Aq. destil.. .... ℥j.
Acid sulphurici dil.....q. s.
Acid carbolic.....Min. v.

Mix the quinine in the water and add the acid cautiously, constantly stirring until the mixture is clear; then add the carbolic acid and filter; ʒj of this solution represents gr. viiss of the alkaloid.

Finally, with due regard for the opinion of those who differ with me, I must place upon record my strenuous opposition to the almost universal practice of giving mercury in the treatment of malarial poisoning. This practice was instituted more than a century ago, at a time when pathology was little understood and when quinine was unknown. Then it was that some form of mercury was pur-

posely given to the extent of inducing ptyalism; and today, whether by intent or accident, salivation is a common result of this practice.

Mercury should not be given in any form or quantity in the treatment of uncomplicated malarial poisoning, because: (1) it is not indicated and forms no necessary part of the treatment, nor adds in any manner or degree to the recovery or comfort of the patient. (2) Mercury is a defibrinator, is prostrating in its action upon the human system, and hence will protract convalescence even when given in moderation. (3) The prevailing habit of giving mercury in all cases of this character is radically unscientific and empirical. (4) Hundreds of confiding and helpless patients are annually needlessly subjected to varying degrees of mercurial salivation, and thus to permanent injury, and a few even to loss of life. (5) Such needless and heroic medication brings unmerited opprobrium upon a proud and meritorious profession.

No scientific defense can be made, nor rational pretext given for continuing, at this advanced period, a remedy which is uncalled for and is so potent for evil results. I have treated thousands of cases of malarial poisoning, representing every form and type of the disease as presented in the Valley of the Mississippi river in the southwestern border of this State (Mississippi). My term of observation covers a period of thirty years, and includes the notoriously malarious alluvial (swamp) region of this great river. Truly, no section of the United States can furnish a more virulent type of malarial fever than that which is prevalent in the region mentioned. It is not more necessary nor rational to give specific treatment for the pathological changes occurring in the liver than for those present in the spleen, bowels, kidneys, brain, etc. Habit and routineism are the only terms applicable to this abominable system of giving mercury in all cases of malarial poisoning.

I, assert with that confidence which is born of ample experience, that the sulphate of magnesium, the improved compound cathartic pill, or any parallel agent or

combination will accomplish all that is needed for laxative or purgative effects. This is true because the purgative, whether mercurial or otherwise, accomplishes little beyond overcoming constipation and thus preparing for absorption of the specific—*quinia*. To no preparation of mercury has, in modern times, been ascribed specific action upon the *materies morbi* in malarial poisoning, and no author of merited celebrity has, within the last half century, advised the use of mercury in *all cases* of the same. They have, on the contrary, advised that it be given in selected cases only.

Art. XII.—An Apparatus for Chloroform-Oxygen Anæsthesia.

By LLEWELLYN ELIOT, M. D., Washington, D. C.

It is not my intention to consider the relative merits of the various agents employed to produce anæsthesia for surgical purposes, nor to enter upon a discussion of the reasons for combining oxygen with the agent selected. These reasons will be sufficiently apparent to those who have employed chloroform or ether to any extent. My object in presenting the subject is simply to refer to the different kinds of apparatus that have been used.

According to the observations of those who have employed the combination of either chloroform-oxygen or ether-oxygen, the length of time necessary to induce anæsthesia varies from three to fifteen minutes; there is an absence of vomiting or nausea or headache which so often attend the usual anæsthesia.

The first article upon this combination which I saw was by Dr. Carter S. Cole in the *Medical Record* October 12, 1895. He describes his apparatus, which was the Walton oxygen apparatus, with a few additions. The cone is a simple tin box shaped like a coffee can. In the middle of the top, a tin tube three inches long is obliquely inserted, half remaining outside. Two rubber tubes leave the bottle four-fifths full of ether, one of which fits on the tube in the

top of the cone, the other in the oxygen tank. The bottle used has been the "wash" bottle ordinarily employed in giving oxygen gas. An additional opening in the top of the cone, which is stoppered by a cork, provides for the addition of ether without removing the cone from the face. A perforated platform, held in place by a removable wire frame, keeps the gauze and cotton away from the patient's mouth, and a rubber mouth-piece that fits the cone and the patient's face completes the apparatus. The method first tried was to pass the oxygen through the regular wash bottle, then through the ether itself in another bottle, and thence through a tube to the cone, into which the gauze and cotton moistened with ether had been placed. Later the wash bottle was omitted, and the tube run from the oxygen tank to the bottle of ether, and the other tube direct to the cone, the gauze and cotton still being kept in the cone. Next the gauze and cotton were left out of the cone and the oxygenized ether passed into the cone. Dr. Cole states further that the amount of gas used probably averaged a gallon a minute. In the same article Dr. Francis H. Markoe describes his method of administering ether with oxygen, but the apparatus does not differ from Coles' except that he retains the two bottles.

Dr. J. H. McClelland describes (*N. A. Jour. Homœopathy*, August, 1895), a method of administering chloroform with oxygen. It consists simply of forcing oxygen gently through a small body of chloroform. The apparatus consists of an ordinary chloroform inhaler, such as Krohne & Geseman's, of London, preferred, or a Junker. Instead, however, of forcing air through the chloroform bottle with a bulb, as ordinarily done, a tube is substituted, which is connected with a cylinder of oxygen. This is turned on fast or slow to suit the necessities of the case. The average amount of chloroform used is four drams an hour. The average time required to bring the patient under the influence is four and one-half minutes in a record of 100 cases. Albuminuria is no bar to its use.

Dr. H. L. Northrop (*Hahnemannian Monthly*, November, 1895), describes an apparatus which he has designed.

A nicely polished wooden box, 18 inches long, 7 inches wide, 7 inches deep, contains a steel cylinder holding 40 gallons of pure oxygen, a graduated two-ounce bottle, the requisite length of rubber tubing, and the inhaler. The latter has an inflatable face-shield attached to a metallic hood, with which is also connected a rubber respiratory bag. This, with the small wheel to be attached to the cylinder, the perforated rubber cork and nickel-plated brass tubes, is all the apparatus necessary for the proper administration of chloroform and oxygen. The apparatus weighs 19¾ pounds.

In order to use the apparatus put two ounces of pure chloroform into the bottle, attach the tubes to the cylinder and perforated cork, and place the bottle in the corner near the open end of the box, passing the tube leading to the inhaler through this opening. Pull out the cylinder until it touches the bottle, and fix it in a position by tightening the screw in the top of the iron ring supporting the cylinder. Put the wheel on the cylinder valve, close and fasten the lid of the box, and the apparatus is ready.

The apparatus which I think the most satisfactory is one made by S. S. White Dental Company, which is a conversion of their ordinary oxygen apparatus to the purposes of the chloroform-oxygen or the ether oxygen combination. It consists of a cylinder holding forty gallons of oxygen, a rubber tubing about six inches leading from the cylinder to the air bag, which holds one gallon, rubber tubing about ten inches leading from the air bag to the chloroform bottle, a rubber tubing of suitable length leading from the chloroform bottle to the inhaler. The face piece is of rubber, fit closely over the nose; and mouth, in the handle (a tube of hard rubber) is a stop-cock, so that the inhalation may be stopped instantly. When the air bag has been filled, the supply from the cylinder is shut off, and the inhalation begun; as the bag becomes empty, a turning of the wheel will

again fill it. This can be continued as long as necessary. The patient breathes naturally, and the narcosis is relieved of much of its dangers. While this method of inducing anæsthesia is in its infancy, there are great possibilities in store for it in the near future.

ART. XIII.—Some of the Dangers of "Trendelenburg's Posture"

By ALEXANDER IRVINE, M. D., Evington, Va.

LATE SURGEON IN CHARGE S. A HOSPITAL, KANAWHA, W. VA.

The chief advantages of Trendelenburg's posture in such operations as appendicitis, ventral fixation of the uterus, etc., is that in this posture the bowels and the other viscera gravitate towards the diaphragm. This enables the operator to see and feel much better what he is doing, as the bowels are much less in the way than in the horizontal position; there is also much less danger of wounding the bowels and other organs in the lower belly.

The only danger I have noticed that has been brought forward against this posture in surgical operations was in a short article some two years ago by Prof. Coe, of the New York Polyclinic. He spoke of the increased danger of secondary *hæmorrhage*. This he explains by the laws of gravitation. When the patient is inverted partially, as in this posture, the *blood* gravitates towards the lowest parts. This makes the amount of *hæmorrhage* deceptive, for as soon as you put the patient in the horizontal position, the blood begins to ooze or flow from many points which bleed little, if any, in the "Trendelenburg's posture." For this reason, when this posture is used unusual pains should be taken to check all *hæmorrhage* in the horizontal position before closing up the belly.

The other danger which I wish to bring forward against this posture, which danger I have never seen mentioned, is that it is positively contra-indicated in *weak heart*. Every physician has noticed that a patient with a weak heart is

unable to lay flat on the *back* with *head low*. If this is the case in a horizontal position, how much worse must it be in a partly inverted position, as in Trendelenburg's posture. As I stated in the beginning, when in this posture the bowels, liver, etc., gravitate towards and press against the *diaphragm*. This pressure greatly obstructs the action of the heart and also the lungs.

I will further say, though somewhat a digression, that no *patient* who is suffering from a weak heart should be allowed to lay on the left side, nor should a patient under ether or chloroform be put on the left side, when *vomiting*, for the same reason.

Correction-Index of Dr. Parvin's Work on Obstetrics.

In the notice of this revised edition of Dr. Parvin's valuable work on Obstetrics (Nov., 1895), it was stated that "Rupture of the Uterus" was not indexed. We take great pleasure in correcting this misstatement. In a note from Dr. Parvin, it is stated that: "As rupture of the uterus occurs most frequently in labor, its place in an index is under the sub-head, *Pathology of Labor*—the general head being *Labor*. Any one understanding the rule according to which it was endeavored to make the index would find it instantly."

Richmond Academy of Medicine and Surgery.

At the meeting held December 23, 1895, the following were elected officers for 1896: *President*, Dr. Landon B. Edwards; *Vice-Presidents*, Dr. J. N. Upshur, J. Page Massie, and J. W. Henson; *Secretary*, Dr. Mark W. Peyser. The annual supper was held at Evensen's, at which over fifty members were present. Under the presidency of Dr. William S. Gordon, the Academy has made excellent progress.

To the Antikamnia Chemical Company Our Thanks

Are due for a souvenir in the form of a "Pocket Note Folder," which is convenient in size for the vest pocket, and always useful. The constant use of this "folder," keeps the physician reminded of the value of antikamnia and of the excellence of various combination tablets of antikamnia.

Book Notices.

Manual of Syphilis and the Venereal Diseases. By JAMES NEVIN HYDE, A. M., M. D., Professor of Skin and Venereal Diseases, Rush Medical College, etc., and FRANK H. MONGOMERY, M. D., Lecturer on Dermatology and Genito-Urinary Diseases, Rush Medical College, etc. *With 44 Illustrations in the Text, and 8 full page plates.* Philadelphia: W. B. Saunders. 1895. Cloth, 12mo. Pp. 618. Price, $2.50 net.

This *Manual* contains quite a full statement of the main facts known with reference to syphilis, chancriod, gonorrhœa, and their several complications or sequelæ. It is pleasantly, plainly written, so that the reader, especially with the copious illustrations before him, cannot misunderstand the descriptions. The most advanced doctrines of the day as to the nature of each of the diseases are well presented and maintained. The conditions under which urethritis—non-gonorrhœal—may arise after relationship with a pure wife are well stated on pages 370 *et seq.*, and the facts should be constantly borne in mind by the physician who may be asked innumerable questions. The authors very properly assert a good guiding advice in saying: "It is far better to let the guilty escape * * * than falsely to accuse the innocent" As a work intended to meet the special needs of the student and of the practitioner rather than the expert, it is a marked success. The publishers' part is well done.

Electro-Therapeutic Practice. A Ready Reference Guide for Physicians in the Use of Electricity. By CHARLES S. NEISWANGER, Ph. G., Professor of Electro-Physics, Post-Graduate Medical School of Chicago. 1895: Large 12mo. Pp. 80, with blank interleaves; Flexible Leather. Price, $2. (For sale by E. H. Colegrove & Co., 52 Randolph Street, Chicago.)

The price seems high when one sees the size of the book and recognizes that nearly all the illustrations—about 50—bears the imprint of a large electrical battery house. But as the text is examined, the reader becomes pleased with it, and finds that from its pages he will derive instructions that will often be worth to him many times the advertised price of the book. It does not attempt to speak of electricity as a specific, but simply teaches plain facts and simple rules for guidance in the application of electricity as an ad-

junct to other therapeutic agents in the treatment of a long list of diseases or morbid conditions—arranged alphabetically. "No theories are advanced, no pathology given," nor views expressed—simply directions given as to how to apply galvanism, faradism and static electricity in the treatment of diseases. The work concludes with a synopsis of an article by Dr. W. J. Morton which draws just conclusions as to the value and general uses of each of the forms of electricity spoken of.

Principles and Practice of Medicine. By WILLIAM OSLER, M. D., F R. C P. (Lond.), Professor of Medicine, Johns-Hopkins University, etc *Second Edition* New York: D. Appleton & Co. 1895. 8vo. Pp. 1.143. Cloth, $5.50; Sheep, $6.50; Half Morocco, $7. (*Sold only by subscription*)

This is the adopted text book of so many colleges, etc., that we regret that the publishers found it necessary to list it as for sale "only by subscription." It delays the purchase, and oftentimes altogether prevents the sale of a book, especially if the bookseller has on his shelf a work that "will do just as well." In other words, such standard books ought always to be easy to get through the reputable booksellers of a city—especially in those cities where there are hundreds of medical students (as in Richmond) at colleges that adopt it as their text book. The merits of this book under notice justify the above remarks.

This *Second Edition* of Dr. Osler's "Principles and Practice of Medicine" is a thorough revision of the first—including corrections, additions, etc., so that at least sixty pages of new matter are incorporated. Among new or recast articles bringing the subject up to date, we note Bubonic Plague, Foot and Mouth Disease, Infantile Scurvy, Affections of the Mesentery, Anuria, Parasitic Infusonia, Eczema of the Tongue, Leukoplakia, etc., Antitoxin treatment of Diphtheria, etc. In nearly every article where corrections of the former text were needed, we find the revision in this Second Edition up to date. Yeo's chlorin treatment of typhoid fever and a great many other details—too numerous to undertake to recount—are all given. So that the improvements in this *Second Edition* are marked, and keep the work where the profession had placed the former edition—in the very front rank of authorities on the practice of medicine. The little dogmatism here and there indulged in on some points where honest differences of opinion yet exist is pardonable in a work having so many excellent qualities.

Practical Analysis and Urinary Diagnosis: *A Manual for the Use of Physicians, Surgeons, and Students.* By CHARLES W. PURDY, M. D., Queen's University; Professor of Urology and Urinary Diagnosis at the Chicago Post-Graduate Medical School. Author of "*Bright's Disease and Allied Affections of the Kidneys*"; also of "*Diabetes*," ETC. SECOND REVISED EDITION. *With numerous Illustrations, including Photo-Engravings and Colored Plates.* Crown 8vo., 360 pages. Extra cloth, $2.50 net. Philadelphia: The F. A. Davis Company, Publishers, 1895.

It was a just tribute to the excellence of this book that a *Second Edition* should be called for in ten months or less after the issue of the first. But we are not surprised, for Dr. Purdy has hit exactly upon what the profession was anxious to have—a work on "*practical* urinalysis and urinary diagnosis." The author has availed himself of the opportunity presented by a call for revision to correct errors, to enlarge upon a few points he thought not clear enough in the former edition, to introduce some new plates and illustrations, etc. In short, the present edition is about as near perfection, so far as the present standpoint of urinalysis is concerned, as we could well have expected to find such a book. Its plan of plainly describing the gross appearances of specimens of urine, how to examine it, what diseased conditions to look for under given conditions of the urine, etc., is so useful to every practitoner that he who is without the book is without a most helpful aid in diagnosis and prognosis. Don't put off getting this book, but refer to it regularly whenever aid is wanted as to urinary diagnosis.

Manual of Operative Surgery. By LEWIS A. STIMSON, B. A., M. D., Professor of Surgery in University of City of New York, etc.; and JOHN ROGERS, Jr., B. A., M. D., Assistant Demonstrator of Anatomy in College of Physicians and Surgeons (Columbia College), New York, etc. *Third Edition, with* 334 *Illustrations.* Philadelphia: Lea, Brothers & Co, 1895. Royal 12mo. Pp. 598. Cloth, $3.75.

Perhaps we look for more than the limits of the volume allow when a new edition of a popular, useful work is announced. With the fullness of detail, and the thoroughness of description which are given to so many operations we were a little disappointed in not finding illustrations and statement of method of using the "Murphy button"—a statement of its uses and of its contra-indications, etc. Some other like omissions of every day operations are noticeable.

But we must recognize that it is impossible to include every approved and commonly adopted method in a *Manual*. And we the more contentedly pass such omissions by when we see how thorough is the revision, and how much of every day practical value to the surgeon is given in the book. Indeed, much new matter is introduced, and the obsolete operations omitted—especially with reference to brain and abdominal surgery. Illustrations are apt, and very numerous; old ones have been re-engraved and new ones presented. All in all, it is an *excellent* "Manual of Operative Surgery."

Surgery: A Practical Treatise with Special Reference to Treatment. By C. W. MANSELL MOULLIN, M. A, M. D., Oxon., F. R. C S., Surgeon and Lecturer on Physiology to the London Hospital. etc. *Assisted by Various Writers on Special Subjects. With* 623 *Illustrations, many of which are Printed in Colors.* About 200 having been made from Special Drawings. Revised and Edited by JOHN B. HAMILTON, M. D., LL. D., Professor of Principles of Surgery and Clinical Surgery, Rush Medical College, etc. Philadelphia: P. Blakiston, Son & Co. 1895. Royal 8vo. Pp. 1,250 Cloth. Price net, $6. (For sale by J. W. Randolph & Co., Richmond.)

It speaks much in praise to know that although the first American edition was published in 1893, now the *third* is issued well revised up to date. The general adoption of this work by the profession is due to the fact that, in the main, it gives the essential features of a disease or surgical condition and then in the most practical manner describes the measures to be adopted for relief. The work is profusely illustrated—about 200 drawings being original. It may disappoint some to know that only about two and a-half pages are devoted to appendicitis, but this may be said to be the most indifferent of the important chapters, the dying out hobby of many operative surgeons. But in general, the work is up to date. Murphy's button operations are fully described, and the instrument is pictured. The work is systematically arranged—Part I. treating of the general Pathology of surgical diseases; Part II. of Injuries; Part III. giving the Diseases and Injuries of Special Structures. While voluminous, it yet serves as an excellent text book for students; for several sections—as those on the Eye, etc.—can be left out of consideration. It is a book which instructs in short, terse descriptions. So that the large size of the book is due to the immense amount of material rather than to redundancy of expression. For the general practitioner who has to do some surgery, this is a good guide book.

Indurative Mediastino-Pericarditis. By THOMAS HARRIS, M. D. (Lond.), F. R. C. P., Physician to the Manchester Royal Infirmary, etc. *Reprinted from the Medical Chronicle*, 1894-'5. London: Smith, Elder & Co., 15 Waterloo Place. 1895. (All rights reserved.) Large 8vo. Pp. 67. Cloth. Price, $1.75. (For sale by J. W. Randolph & Co., Richmond.)

Kussmaul was the first to describe (1873) cases of indurative mediastino-pericarditis (— adherent pericardium with an increase of fibrous tissue in the mediastinum; the increased mediastinal tissue is united to the external surface of the pericardium, and both it and the pericardium are united to the left, and may be also to the right lung)—although autopsies of cases that correspond to the disease had previously been recorded. Dr. Harris collects the records of some 20,000 cases, and bases a systematic paper on it which will be valuable to whoever may further follow up the subject. The principle signs and symptoms, all of which, however, do not occur in every case, are dyspnœa, evidence of venous engorgement and cyanosis, cardiac enlargement, increase in size of the liver, and either general dropsy or only ascites with little or no anasarca of the lower limbs, a pulsus paradoxus, and inspiratory swelling of the veins of the neck. No treatment is known to cure. Duration of the disease from a few months to several years when death relieves the suffering.

Personal Reminiscences and Recollections of Forty-Six Years Membership in the Medical Society of the District of Columbia and Residence in this City, with Biographical Sketches of Many of the Deceased Members. By SAMUEL C. BUSEY, M. D., LL. D. Washington, D. C., 1895. Cloth 8vo. Pp. 373.

Such volumes are wanted in every community of great men. No profession has so meagre a preserved record as the medical. Doctors work and die as private citzens—loved and honored by families while in active life, but lost to history when they die. Dr. Busey writes a record that possesses interest on every page, and brings to recollection the characters of many whose lives left their impress for good upon all who knew them. It is impossible, of course, to review such a book as this in the limits of a book notice; but we may rank it in record value along with many of the contributions to medical history made by Dr. J. M. Toner.

Index-Catalogue of the Library of the Surgeon-General's Office U. S. Army—Authors and Subjects. *Vol. XVI* W—ZYTHUS. Washington: Government Printing Office, 1895. Quarto. Pp. 822 Cloth. (From Surgeon-General U. S A.)

Alphabetical List of Abbreviations of Titles of Medical Periodicals Employed in the Index-Catalogue of the Library of the Surgeon-General's Office, U S. Army From Vol. I to Vol. XVI inclusive. Washington: Government Printing Office, 1895. Quarto. Pp. 282. Cloth.

With mingled pride and regret, we have received these last volumes of the first series of the *Index-Catalogue*—pride and pleasure because of the stupendous work completed in seventeen years, which reflects credit upon each one connected with its preparation; regret, because, probably, the distinguished Deputy Surgeon-General, Dr. J. S. Billings, under whose supervision each page was prepared, retires from public governmental work. Though this is the last volume of Series I. compilers have about finished the MS. of Vol. I. of the *Second Series*, which is taken up with authors and subjects, arranged alphabetically, received too late to be incorporated in the matter of the *First Series*. Vol. I. of this second series will be ready during 1896. The work is invaluable to writers looking up the literature of subjects—especially when aided by the volume of "*Alphabetical List of Abbreviations, etc.*" We trust that Congress will make ample provision for the prosecution of work begun, and, in fact, make permanent offices of that department specially engaged in the duties of examining journals, articles, etc., with reference to further indexing. The *Index-Catalogue* is a monument to those who made it; a most useful thing to the doctors of America, etc.

Annual of the Universal Medical Sciences. Edited by CHAS. E. SAJOUS, M. D., and SEVENTY ASSOCIATE EDITORS, assisted by *over two hundred Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo Lithographs, Engravings and Maps.* IN FIVE 8vo VOLUMES—each of about 600 pages. 1895. The F. A. Davis, Publishers, Philadelphia, New York, Chicago. Cloth. $15 for the five volumes

The editor explains the lateness of issue by his failure to receive some of the MSS. from some of the associate editors. But the thoroughness of the work as now completed furnishes a library of well compiled new facts bearing on familiar subjects that gives to the series a most exalted value. In fact, we cannot understand how any one can assume the *rôle* of the practitioner—one who feels the responsibility of his trust in dealing with dangers to human life or health—without being an earnest searcher after the real advances in medicine, surgery, etc., as presented in

this excellent series. Of course, we cannot review such a work as this—cannot even give a table of contents. But it is presumed that most of our readers are acquainted with one or the other of the seven preceding annual series. This *Eighth Annual Series* is an improvement on any of them. On the theory that "practice makes perfect," we find that the Annual editors, etc., have approached each year nearer to the perfect supply of the practitioner's needs, so far as compiling the practical and valuable from the literature of medicine during the past year. The *Annual*, as is generally known, embraces every department of Medicine, Surgery, Gynecology, Pediatrics, Obstetrics, Neurology, Sanitation, etc. No work yet published can take its place—it is so complete.

International Encyclopædia of Surgery. Edited by JOHN ASHHURST, JR., M. D., LL. D., Barton, Professor of Surgery and Professor of Clinical Surgery, University of Pennsylvania, etc: *Illustrated with Chromo-Lithographs and Wood Cuts. In Seven Volumes.* Vol. VII. (SUPPLEMENTARY VOLUME). New York: William Wood & Co. 1895. Royal 8vo. Pp. 1,082.

About seven years ago the sixth and last volume of the revised edition of this "systematic treatise on the theory and practice of surgery by authors of various nations" was issued. Since then, so many discoveries and advances have been made in various departments of surgery as to make it necessary to bring out a new volume, which indicates the obsolete doctrines and practices then in vogue, and represents the later facts which are to take their place. It is a wonderful record of advances to see what was then taught and now untaught and revised. In nearly every section we find the necessity of such revision. Thus we might refer to hydrophobia; then, many doubted its existence in the human subject—attributing many of the phenomena to tetanus, to fright or imagination; but who now questions it? Dr. J. McFadden Gaston thoroughly revises the chapter on this subject and brings it up to date. The articles on Rachitis, by Dr. J. Lewis Smith; on Injuries of Blood Vessels and Aneurism, by Dr. L. McLane Tiffany; on Surgical Diseases of the Vascular System, and on Hernia, by Dr. John A. Wyeth; on Injuries and Diseases of the Eye, by Dr. Charles W. Kollock; on Injuries and Diseases of the Abdomen, by Dr. A. Vander Veer; on Diseases and Injuries of the Bladder, by Dr. Hunter McGuire; on Injuries and Diseases of the Female Genitals, by Dr. Theophilus Parvin, etc., are

all illustrations of the advances made. The Editor himself calls special attention to cerebral surgery as an example—a department "which may almost be said to have come into existence since the revised edition" was published. Whoever has the revised edition of seven years ago requires this Seventh (*Supplementary*) Volume to make the six preceding volumes useful or reliable. Whoever has not the other volumes will find in this supplementary volume quite a thorough and authoritative statement of discoveries and solid advances during the past seven years. The work is nicely issued.

Obituary Record.

Dr. Robert Battey, of Rome, Ga.,

Died at his home November 12, 1895. He was born in Augusta, Ga., November 26, 1828. He received his academic education from schools in Augusta, Ga., Andover, Mass., and Philadelphia, Pa. He was a graduate in pharmacy from the Philadelphia College of Pharmacy, 1856, while he was also attending lectures in the Jefferson Medical College, from which he graduated as Doctor of Medicine in 1857. From the University of Pennsylvania, in 1891, he received the degree of LL. D. He followed up his post-graduate medical studies in Paris, 1859 and 1860. Then he returned to Rome, Ga., where he resumed practice. In 1861, he entered the Confederate service as surgeon of 19th Georgia Regiment—being successively promoted until the close of the war. He again resumed practice in Rome, Ga. Having declined the tender of various professorial offers, he was induced to move to Atlanta in 1872 to accept the Chair of Obstetrics in the Atlanta Medical College, but resigned and returned to Rome in 1875. In 1873, he became the editor of the *Atlanta Medical and Surgical Journal*, resigning this position in 1876, after his return to Rome, Ga. In that city he established his Gynæcological Infirmary, and later founded the Martha Battey Hospital in the same place, which institution, after incorporating, he gave to his wife in grateful recognition of her valuable aid in all of his professional life.

In 1859, he devised an approved apparatus for vesico-vaginal fistula; and about the same time he pointed out a new method of treating club-foot. In 1871, he formulated

"iodized phenol" for cervical and endometrial troubles. In 1872, he demonstrated that fluid enemata could be passed through the living body of an etherized patient and ejected through the mouth. But the operation known as "Battey's operation," or as he first called it "normal ovariotomy," which has given him a world-wide reputation, was first done by him August 27, 1872, on a patient who is now living and in perfect health The purpose of his operation was to establish the menopause by the removal of the ovaries, and is now adopted by surgeons the world over.

Dr. Battey was the recipient of many honors in recognition of his great ability and benefits to suffering humanity. He was an honorary fellow of the Medical Society of Virginia—several sessions of which he attended and at which he contributed papers on subjects connected with his special discoveries, etc. He was also an honorary fellow of the Obstetrical Society of Edinburgh; of the British Gynæcological Society, and of various other scientific societies. He was a member of the Judicial Council of the American Medical Association, 1875; President of the American Gynæcological Society, 1889; President of the Medical Association of the State of Georgia, 1876; of the Floyd County Medical Society, 1888; and of the Tri-State Medical Society, in 1892. Dr. Battey contributed a number of papers of distinguished merit to medical journals—among them, the *Virginia Medical Monthly*, the *Atlanta Medical Journal*, the *American Lancet, etc.* Years ago, the *Virginia Medical Monthly* published an approved steel-plate engraving of this great man, accompanied with a full biographical sketch.

Dr. Battey was a great man in learning, in genius, in marked ability as a gynæcologist, and in goodness. His devout Christian character was impressed upon his many acts of kindness. He acted upon conviction as to what was right, and preferred the quiet life of his Southern home to the trumpetting of praises which he would have heard had he lived in a metropolitan city. He was considerate of the poor, never gouging the purses of the rich; a friend to the needy, and never carried away by the plaudits of his comperes. He was kind to the young, and appreciative of the good work done by those who might have been considered as competitors of honors justly his own. He took delight in according to others the credit that belonged to them. Seldom do we meet with men possessing so many excellent traits of character. With his life work finished, any who are coming after him may well adopt him as an exemplar.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 11. WHOLE NUMBER, 263.

RICHMOND, FEBRUARY, 1896.

Original Communications.

Art. I.—Hydrophobia—Is it a Specific Disease?*

By WILLIAM T. WALKER, M. D., Lynchburg, Va.

Hydrophobia has been defined to be a specific disease of the nervous system in man, caused by the application of a specific virus from lower animals to abraded surfaces, producing violent mental and physical perturbations, and generally ending in death.

Few diseases are more feared and dreaded, and in all ages remedies, either protective or curative, have been sought. Sometimes an amulet, or charm; again something ludicrous or disgusting, and yet again, scientific researches have been suggested, and therapeutic agents having controlling influence upon the nervous system have been extolled.

Probably no disease which "flesh is heir to" has been the subject of more research, or more written about. One cause of this is, probably, that there is an element of superstition mixed up with the belief concerning it.

Many curious beliefs have been held as to the causes of

* Read before Lynchburg Academy of Medicine, December 10, 1895.

this disease, and of the times when its propagation was manifested. The signs of the zodiac have been believed, and not very remotely, to have had controlling influences over it. Sirius, the dog star, was by many believed to be as potential in its malign influences upon rabies as the moon was over melancholia.

Among the best writers upon this disease may be mentioned Dr. Thomas Watson, late of London, who died recently at an advanced age. More recently, Dr. Dulles, of Philadelphia, has bestowed much earnest and intelligent labor upon this subject. From information furnished by these and other writers, we find that probably the earliest writer whose works are extant and reliable was Aristotle 384 B. C., and according to him, dogs are subject to three diseases, lyssa (or rabies), cynanche, and podagra. Lyssa causes madness, and all animals so bitten go mad except man.

Still earlier writers allude to hydrophobia as a disease in man produced by the bite of a rabid dog, and give preventive and curative agents for its treatment. Pliny mentions the wild cabbage, as an agent of great value. At a later date, Celsus speaks of this "miserrinum genus morbi," and advises cupping, cauterizing, and emollient dressings; and when the dread of water comes on, he advises the pond, or better, the salt or sea bath, of which the patient is to be made to drink to his fill.

Other writers, including Pliny, who collected many reasonable and unreasonable teachings upon many subjects, suggested the use of raw veal, he goat's liver, she goat's dung and wine, ashes of the river crab, or tail of the shrew-mouse, and many other absurd suggestions, as they seem to us now, but most especially was the liver of the dog, which had inflicted the wound valued; especially if eaten raw it was held in highest esteem. As we come down the ages, Galen, 200 A. D., suggested many remedies as the accumulated wealth of time, but expresses his doubt of the value of the liver, since he had seen some die who had trusted to it, while other some who did not trust to it, but to other remedies, did not die.

The symptoms of this disease are fairly well drawn out by many of these older writers, and the list of therapeutic agents given is truly appalling. So great has been the desire to cure this disease, believed to be specific, that wherever a specific treatment, for a specific disease has been advocated, the merit of its treatment has been claimed for hydrophobia also. All of these trials and guesses were only declarative of the entire ignorance, both of the cause and the evil, as well as of the remedy.

We can afford to be amused, at what we call the crude suggestions coming to us through the dark ages—*e. g:* In the 18th century, the British public had proposed to it by Thomas Mayern a plan, by which not only the proof of the madness of the suspected dog, but also of the treatment for the cure of the disease. It was, indeed, very simple, only to pluck the feathers from the breech of an old rooster and apply them bare to the wound. If the dog were truly mad, the rooster would swell and die and the wounded man recover; but if the chicken did not die, the dog was not mad, hence no danger.

Dessault, who had taught the cure of venereal diseases by mercurials, also taught that hydrophobia was produced "by certain insects or little worms," and herein analagous to venereal disease. About this time Dr. James urged mercurial treatment in England, and also expressed his belief in "pulvis antilyssis," and other agents. Many of the writers of this date gave their views upon the pathology of this disease, and the influence of the heavenly bodies upon the human frame, was believed by many to a later date, and adhered to with unwavering pertinacity.

About this time the "mad stone" came into use, at first said to have been manufactured in China; later, said to have been found native. Dr. Rush spoke of its value, as did many others in his day; and Dr. J. Peter Mattauer, of Prince Edward county, Va., in my knowledge, sent patients to a mad stone in Halifax county. A piece of this mad stone came into my possession, but as I had no occasion to test its efficacy, it has left me. But in my earlier memory faith in

this stone was as great as the faith in the shrine of Loretto, and only equaled by their faith in hydrophobia.

We were also taught that there were certain vesicles beneath the tongue of the dog, which, if removed, would render him immune, and thus devoid of danger to others. Many and curious remedies have been brought before the public, such as intravenous injections of warm water, milk, goat's blood, etc., together with electricity in various forms and ways, each in turn vaunted as efficacious, but laid aside as a new claimant came up for popular favor, which in its turn had to be laid aside as of no avail.

Even as late as 1870, xanthium spinosum was much used in Russia and other parts of Europe, and as many as 100 cases were said to have been cured by it in France and Italy. We can form some idea of the number of remedies which have been used, when one writer gives 39 from the mineral, 86 from the animal, and 213 from the vegetable kingdom, besides 9 compounds. This is but a brief sketch of the treatment of hydrophobia in former times.

In our own day we use morphia, curare, chloroform, chloral, veratrum, canabis indica, mixed narcosis, oxygen, from which much benefit has been claimed; calabar bean, hoanynan, and many others have been brought up only to be laid aside. Electricity was used in France in 1881, and cures were confidently claimed for it, on what was called reliable authority.

About this time Pasteur, who had done much for France in other fields of labor, in connection with the wine, beer, and silk industries, also splenic fever, anthrax, fowl cholera, etc., was induced to turn his attention to this abstruse, vexed question, and to him the Government extended a kindly, helping hand. And so great and well established was his reputation, and indomitable energy and skill as an experimenter, that the eye and the hope of all the world was extended to him with anxious interest and wrapt attention. In January, 1881, Pasteur put forth his claim before the Academy of Medicine in Paris, that hydrophobia in man was caused by the bite of a rabid animal, and that a micro-

scopic organism, which he called bacillus lyssa, was the origin of the phenomena of this disease. But this idea he was soon obliged to give up, as Koch showed to the bacteriological students that this so-called bacillus gave rise to septic infection, and that, in fact, different kinds of bacilli were produced in wounds treated according to Pasteur's methods.

For two years he worked on upon an hypothesis which he had created, that the chief amount of virus which gives rise to hydrophobia was to be found in the cerebro-spinal system; and that if a small amount of cerebro-spinal matter were injected into rabid guinea pigs, dogs, and other animals a like disease would be produced. In July, 1885, he used his attenuated manufactured virus upon Joseph Meister, bitten in fourteen places, and carried him through a series of vaccinations, beginning with the weaker and concluding with the stronger virus. The boy had no symptoms of hydrophobia, and was pronounced cured, and immune against rabid virus then and for all time.

Pasteur then gave out that he could prevent an outburst of the disease on any one who had been bitten, regardless of the time since the injury—a bold assertion, but it naturally caught the ear of the public, and from many parts of the world patients flocked to him, and he became the most famous man in the world. But soon he found his manufactured virus did not protect many who came to him, and in fact, some, seemingly well before, died under the treatment. He then had to teach and believe that their visits to him had been delayed too long, and that there was uncertainty of result after fifteen days—but again he met with disappointment. In 1886, the royal house of Vienna gave money to erect a Pasteur Institute, and Prof. Von Frisch was sent to Paris to study the methods of Pasteur, which he, with most earnest, hopeful care, did, for he was a friend and admirer of Pasteur. He remained with him for a month, and returned to institute a set of experiments himself, according to the methods taught.

He found dogs could be rendered refractory to the rabies of Pasteur, but died from the rabies of the street dog.

Frisch was admonished to use a more rapid inoculation; this he did, but found the dogs were killed by this method, or if not, were not immune to the street rabies. As we might suppose, the scientific world were observant of the result of the new method set up in Paris for the cure and extermination of a disease which had been the "*bete noir*" of the ages. And while many committees had reported favorably, hopefully, of the result, others were obliged to look closely to the number of failures. Among these, Frisch, the friend and well wisher of Pasteur, who desired to be his coadjutor in the cause of science and suffering humanity, had reluctantly to conclude that it was not possible to prevent the outburst of rabies by Pasteur's methods if infection had taken place.

The objections to this theory may be formulated somewhat in this wise:

1st. That the majority of patients treated by him had not been bitten by rabid dogs at all. In this country, it is interesting to know that four boys from New Jersey, thought to have been bitten by a rabid dog, were sent to Pasteur. Under his treatment, two died; there were two other boys, bitten at the same time by the same dog, not sent away, but they recovered at home. Later the dog who, fortunately for science and truth, had not been killed, but confined, and was proved not to have been rabid, but remained alive and well. The world said, "Behold, he cures half of his cases."

2nd. He did not inject a rabific virus at all, but a made virus passed through many attenuations, manufactured from the medulla oblongata and spinal cord, after being macerated in a bouillon, and hence of unknown virtue. In all other diseases, treated by inoculation or vaccination, a modified form of the disease was claimed to have been produced; but he only claimed to have rendered the subject immune, leaving no mark upon him save that of the needle used for the injection, and no evidence of cure left except that he had not died in a few days either from real or manufactured virus, and this many observers and subjects seem

to have believed. Now, if the virus may lie dormant for months or years, the time elapsed is too short to be called proof upon this subject.

3rd. He made no control experiments—never treated his patients side by side with those treated by other methods; he made hasty and contradictory statements, disproved by observations by Koch, Frisch, and others. He claimed he found lesions and organisms in the human system which could not be seen by others, and when this was not verified, he stated he alone could see them. He did inoculate a foreign substance into the subject which did produce morbific matter, generative of disease.

He manufactured an hypothesis, and tried to prove it by supposed alleged facts, but his facts would not fit his theory. Frisch cautioned against these inoculations, claiming they were dangerous—possibly producing rabies, or false rabies, in the vaccinated.

It occurs very often, that other diseases are mistaken for rabies, such as phrenitis or septicæmia, due to animal bites or other injuries which may give rise to convulsions and other attendant symptoms, and be mistaken for hydrophobia. The dog, which has been suffering from diseases of the intestinal tract and nervous system is pronounced rabid when such is not the fact, as the sequence often proves.

The germ theory, followed by septic absorption from external surroundings, if carefully probed, would account for many of the supposed cases of rabies. Fermentations, set up in the system by external causes, would account for many of the so-called cases of rabies. Many of the cases called cured were not rabid. Careful statistics have been prepared by men in position to make observations, and it has been shown that there was much of error in the reports sent out to the world. In France, during the twenty-seven years previous to 1886, an average of thirty patients died each year of rabies, and in 1886 thirty died also, sixteen of whom had been inoculated.

Hunter furnished an account where, of twenty-one persons bitten by a mad dog, only one became rabid. Dr.

Hamilton says that only one dog in twenty-five, bitten by a rabid animal, becomes rabid. It can thus be readily seen that this infrequent immunity gives place and chance to the claims of quackery, mad stones, specific remedies, and methods which may be even called scientific.

We would not apply denunciatory epithets to Pasteur, a great scientist, who sought after and found many truths of incalculable benefit to man. We can only say that were the facts of the case before a Scotch jury, they would say of his claims "Not proven." But now death has claimed him, and he has passed away like some alchemist of old, just as he was about to find the long sought for secret, but not without having found and taught much of great value; and so often the diligent seeker after knowledge in one field finds hid treasures of greater value than those he sought, and also leaves a light to show the path of science to those who come after him.

The death of this great scientist, in last September, at seventy-three years of age, leaves the vexed question yet not proven, but study and research will not end here. New questions will arise, old ones be re-opened; the thought will again arise, whether there be any "specific virus" conveyed by the tooth of a dog or other animals, producing in man the disease called hydrophobia; or whether there be other causes, external to the victim, which may produce, if following wounds with abrasions; or whether these symptoms may become manifested when no wound is produced. In former times, many beliefs were entertained in regard to various forms of phenomena.

Witches were killed, *ignis fatuus* was believed to be a real evil spirit, leading the unwary traveler to his doom; ghosts and fairies held supreme possession of the minds of many; and it is not strange that many should think the dog, friend and companion of man, should become possessed of an evil malady which he could impart to his master and his own species. In all—even the extreme and absurd views which we hear or hold—a modicum of truth lies, and we do know that a horrible malady is often imparted by the bite of a

dog or some other animal, and that apprehension and imagination, if not superstition, adds greatly to the intensity of the disease.

But in this age, when we seek to investigate facts, we should calmly inquire whether these facts carry out the belief in this specific disease. To go no farther back than the days of Sir Thomas Watson, we find him following the views of Youatt, the great veterinary surgeon, a believer in this specific virus, and writing well, as he always did, on all subjects in defense of his position. Yet Condiè, who admired him enough to edit the American edition of his works, roundly asserts, and proves, too, that hydrophobia, with all its attendant symptoms, is found where no wound of any kind has been sustained.

Again, many entirely authentic cases are of record, where hydrophobia followed wounds from animals known and proven not to have been rabid, but to have lived and been well afterwards. Again, man recovers of his bite, and the dog it is who dies. Hartshorne, and other able writers, say there is good evidence to show that the disease may be and has been communicated to man by the bite of animals known to have been rabid. Hammond reports two cases of rabies caused by the bite of bitches in heat, which were in no way effected with rabies afterwards. From our army of medical officers on the frontier come up numberless reports of men bitten by skunks, around the camp, having died of hydrophobia. Among these, Assistant Surgeon-General Janeway and Dr. Thornton Parker say that the bite of the skunk is more to be feared than the rattle snake. These animals prowl around through the camps at night in search of food, and if they find a hand, or foot or other part of the body exposed, proceed to utilize it. Dr. Parker says so great was his fear of these animals that he had the tents sodded around, and his dog kept on duty to guard him. Yet, these pests were never regarded as rabid. This may be said of other animals of the canine and feline families.

It seems that other diseases are often mistaken for rabies, *e. g.* Septicæmia, from the bites of non-rabid animals, and

injuries of other kinds which will give rise to tonic spasms and other symptoms common to hydrophobia, and hence be so called. Many diseases in the dog may be mistaken for rabies, and the dog, unwisely, killed. Let dogs that are suspected be well preserved, and many will be found not rabid, and so doubt will be cleared up, and many persons, overcome with fear, who go on to die from phrenitis, hysteria, mental exhaustion, and kindred affections, would recover.

A patient came to me on one occasion overcome by fear—showing me her lacerated hand, which she assured me was bitten by their own gentle, faithful house-dog, which had become mad. In answer to my inquiries as to what she had done for the wound, she informed me she had followed the suggestions of her friends and neighbors, including the hair of the dog. She was delighted when I assured her that the dog's hair was known to be good for the bite. When I asked her whether she had killed the dog, she informed me that it had been shut up, but would be killed that day. This I urged her not to do, as I wished her to continue to treat the wound with the hair of the dog, together with a lotion and salve which I prescribed, at the same time assuring her it was the live hair of the live dog which was efficacious—that there was no virtue in the hair of a dead dog. This she agreed to do. In a few days, upon her return, she told me she had closely followed my advise, and assured me that the wash and salve which I had given her, had proved highly curative; that her hand was almost well. In answer to my inquiry about the dog, she assured me, with great delight, that he did not go mad.

No doubt the recovery of the dog had much to do with the recovery of the patient.

It will be probably asked, "Is there no hydrophobia?" We do not say this; we do not attempt to deny that a class of symptoms, justly called by this name, does exist, and that so great is the shock given to the nervous system, in a few days many die in the manner described.

After the most careful observation, writers seem agreed upon one point: that hydrophobia in man never does reproduce itself. A bite of a rabid dog will produce hydrophobia in man as well as other causes, but the hydrophobic

man does not reproduce it in others. This is contrary to popular belief, but agreed to be true by writers on the subject after much investigation. Rabies may be continued from dog to dog, but not hydrophobia from man to man.

The similarity of hydrophobia to many other diseases also throws doubt around this question. So close are the lines of tetanus, that men may be excused for differences of opinion. Dogs are subject to epileptic and other diseases which may be taken for rabies. The atmosphere is so filled with bacteria, that their absorption into the wounds of men and animals cannot be wondered at, thus producing septic disturbances.

Germs, microscopic organisms, start from fermentative action; the old term, inflammation, may be lighted up in the brain and spinal cord, and so the symptoms described result, even though no surface wound has been received. Malignant diseases are often lighted up from entirely externernal blows.

Pasteur claimed many cures upon his hypothesis; this is recent. Youatt claimed more from cauterization with nitrate of silver and other agents. In other ages cures have been claimed.

What shall we do when called to a patient bitten by a dog with symptoms of hydrophobia?

Use the most considerate judgment with regard to the symptoms; treat them upon rational plans; allay apprehensions; isolate the patient, so that the gaze and remarks of the vulgar do not reach him. See that the dog be not killed, and most probably he will not go mad.

This is truly a case where "the hair of the dog will be good for the bite." Few patients will die of hydrophobia. Great is the power of the imagination for good or evil. So many are the instances where this disease seems to start "*de novo*," that if we hold to the idea of specific poison, we are driven to the belief in spontaneous generation, which we cannot accept. But if we accept the idea that traumatic causes, say in an open wound, are followed by septic absorption, or if there be not an open wound, but an internal in-

jury, as from a concussion of the spinal column, by internal lesion, or inflammation, then phrenitis, cerebral, or spinal congestion and inflammation may be set up. Add to all of these the mental impression connected with the idea of rabific disease; then, as Dr. Maudsley says, the idea of an event about to happen will bring upon some persons a conviction that they actually see and feel its full effects, and suffer the consequences of the dreaded evil.

So, sensational mad dogs often make real impressions upon morbid imaginations. Spitzka, in 1886, said that a number of deaths from hydrophobia are but lyssophobia, equally fatal as the true disease, caused by the agitation of the subject. If public sentiment would put down sensational apprehensions; if biologists and physicians would unite in cultivating a more scientific, healthy sentiment, much good would be done. Police and health officers should be taught to quiet instead of creating agitation.

If hydrophobia be a specific dreaded disease, how comes it that so few are found who have seen it, or can claim to have seen a veritable case, are able to define the source and origin of the case, or can accurately differentiate it?

We have already taxed your patience too long, yet much remains unsaid. We might speak of the uncertain incubation of this disease as altogether unscientific; we might speak of the large extent of the earth's surface, where neither the disease nor the apprehension of it are known. It is said not to be known in Mexico, Australia or the Madeira Islands or in the heart of Africa—the original home of the dog, as Livingston tells us—and in Constantinople, where dogs are given governmental protection. I have known two gentlemen, high in position, bitten by dogs thought rabid; one was taken to a mad-stone. They described with great vividness their peculiar sensations; also, the impossibility of any just conceptions of their feelings.

In conclusion, I would say I have written out these thoughts, which I did not expect to be adopted in full by this company, but I believe the truth lies along this line, and science and investigation may do much in the future for this vexed question.

ART. II.—Some Common Diseases Observed North of the Arctic Circle*.

By JOHN E. WALSH, M. D, Washington, D. C.

SURGEON TO PEERY'S RELIEF EXPEDITION, 1895.

On my return to the city, and learning that it fell to my lot to read a paper this night, I thought it might be interesting, as showing the geographical distribution of certain diseases, to say something about the diseases observed during my summer trip among the Northern races of man. Since consulting my diary and memory, I find that I have less on this subject than I thought, and therefore my paper is medical only to a slight degree. Instead of the title given it might more properly be called "The Esquimos, their country, habits, customs, and diseases." I apologize, and hope you will pardon me for not giving you something more consistent with the objects of our Society.

The expedition to which I had the honor as well as pleasure of being a member, and having for its object the relief of Lieut. R. E. Peery and the collection of material for the American Museum of Natural History, sailed from St. Johns, N. F., July 11, 1895, on the steam sealer "Kite." Our party consisted of twenty one persons in all, passengers, officers, and crew. None of the party during the trip suffered any very grave illness. Rheumatism, urticaria, hæmorrhoids, colds, and constipation were the only ailments.

Constipation, I am told, is the most troublesome complaint that affects Europeans in the northern waters. This is due, I think, to a lack of exercise, a disinclination to go to stool on account of the cold and to the fact that little water is drank.

After an uneventful foggy voyage, we arrived at Holsteinberg, latitude 67° N., July 19, and left on the 20th for Godhaven, reaching there the next day. After a short stop at this place, we sailed eastward to Jacob's haven, and afterwards up the Weigat or strait separating Disco Island from

* Read at a meeting of the Medical and Surgical Society of the District of Columbia, December 9, 1895.

the mainland, stopping for fossils at a place called Atanekerdluk, 70° N. This was our last stopping place in South Greenland.

After crossing Melville Bay we came to the country of the Artic Highlanders, or North Greenland.

We attempted to enter Bowdoin Bay, at the head of which was Peery's headquarters, but were stopped by the ice in Inglefield Gulf. After a delay of a day or two we put into McCormick Bay, took Lieut. Peery on board, hunted walrus, duck, and deer about the Gulf, and then sailed north as far as Cape Sabine, latitude 78° 40′ N., where Lieut. Greely was picked up several years ago. After a short stay in Inglefield Gulf, we sailed south to Cape York, near that place, getting the meteorites on board, and then crossed Baffin Bay to the west coast, going twenty-seven miles up Jones' Sound, which separates Elsmenland from North Devon. Then taking our course southward, put into Dexterity Harbor, where we had an opportunity of seeing the west coast natives, who, although of the same race, are different from the Greenlanders.

Leaving this place, and after having been held in the ice pack for several days, we arrived at Godhaven again on the 11th of September. After stopping here about twenty-four hours our anchor was weighed and course set for St. Johns, where we arrived, after a stormy passage, September 21st. This, in brief, is our itinerancy.

Greenland, as you are aware, is divided into two divisions, the central part, which is occupied by the great ice cap, and a strip of from five to twenty miles wide between it and the coast. This strip consists of rough and rugged mountain peaks and ridges having between them valleys, down which glaciers, solid rivers of ice make their way slowly but irresistibly to the sea, there to break off and form icebergs, the terror of trans-Atlantic travellers.

As may readily be supposed this strip is the only inhabitable portion of the country, the Danes having settlements from Cape Farewell as far north as Upernivik, 73° N. The settlements are mostly near the entrances to the fjords,

and those I have seen have most perfect, land-lashed harbors. The soil is very scanty in quantity, but what there is, I think, is rich in quality, and had they a longer summer is capable of producing vegetation.

In spite of the cold and long winters they have some little vegetation in the way of mosses, grass, and flowers. There are quite a variety of flowers, the most common being the Arctic poppy, which grows in great abundance and in all places. As far north as we went, 78° 45′, this flower was seen, and just on the edge of the ice cap, where there was a strip of moraine about 20 feet wide, with the snow hill descending to the plain on the other side, these flowers were blooming in great profusion.

There are no trees except the ground willow and birch, which grows about six inches high and runs along for three or four feet.

For six months in the year at Godhaven, and for four months in North Greenland, total darkness reigns.

The temperature varies in the winter from thirty to sixty degrees below zero, and in the summer averages about 38°. The intensity of the cold is not felt so much as it is in this latitude. Dr. Hall, speaking of this, said: "On December 8, at noon, the thermometer was at zero, and on the 9th 15° below zero, or 47° below the freezing point, yet strangely to me the cold was not felt so much as I should have supposed." Referring to the same thing, Dr. Benj. Vreeland, U. S. N., on the Advance, in the winter of 1850–'51, says: "We sat on deck viewing and applauding representations in which female characters appeared on the stage with bare necks and arms, when the thermometer was 46° below zero."

Of course we did not experience any such temperature as that, but with the mercury at 34° F. I have slept on the moss among the rocks, within 300 feet of a glacier, with no covering other than my ordinary clothing, consisting of medium weight flannel underwear, flannel shirt, pants, and light weight sweater, and suffered no inconvenience from it. I could not do that here with the temperature at 60°. The rainfall is very slight, there being only two weeks in the

year in North Greenland when it rains at all. Fogs are very prevalent during the summer.

The people with whom we came in contact were of *three* different classes. *The Greenlander*, who inhabits Danish Greenland, and whom we saw at Holsteinberg, Godhaven, and Jacobshaven are not pure Esquimo; in fact, I do not believe there are any pure Esquimos in South Greenland. They are about three-fourths Danish blood, and to a great extent possess the Danish cast of features, with all the Esquimo dirt and squalor.

The men are slightly below the average height, though some are tall, and are generally dark, though there are some light ones among them. They are undemonstrative, phlegmatic to a certain degree, but are cheerful and seldom quarrel.

The women are slightly smaller, better looking, and do the hardest part of the work. These people are intelligent, and to a certain degree educated. A strange thing is that they cannot or will not learn Danish. They pick up a little English from the few ships that come there, but although they have a Danish governor, minister and teacher, they cannot master one word of their language. Their clothing, consisting of pants, shirt, and kanicks or boots, are made from the skin of the seal.

Their habitation is made of stone walls raised to a height of about five feet, with a peaked roof rising about five feet higher. The spaces between the rocks are filled in with sod and turf, and when covered with ice in the winter are quite warm. Most of them are lined with wood. The entrance is through a long, narrow passage, about four feet high, which serves the double purpose of keeping out the cold winds and as a shelter for the dogs.

Their surroundings are most unsanitary. All about the entrances and sides of the house is saggy, wet ground, covered with urine, excretæ—both human and dog—bones, and everything for which they have no use. The people are dirty in their habits, washing but seldom, and sleep-

ing all together, men, women and children, in one bed, which is only a wooden platform covered with bags of moss.

Their food consists of the flesh of the seal, fish, deer and vegetables and cereals obtained from Denmark. They are great users of tobacco, both for smoking and chewing, and are fond of wines.

Their chief occupation is hunting the seal, reindeer and fishing.

The *second class* is the *Arctic Highlanders*, numbering two hundred and fifty, who inhabit the coast north of Cape York, between the 75° and 79° N. latitude. They are pure Esquimo, and are a laughing, good-natured people, intelligent, and quick to see into things.

They are short of statue, stout, and well nourished, with dark broad faces, broad nose, good mouth and teeth, dark eyes, some set obliquely, heavy eyebrows, and long abundant black hair, but not much on the face. Legs short, body long, arms about normal, feet and hands small.

These people are even more undemonstrative than those of South Greenland. Nothing seems to surprise them. Even the houses, horses, steam cars, etc., of our country failed to elicit one exclamation from the Esquimo girl whom Mrs. Peery brought home with her.

They are totally devoid of education, except as to what appertains to their own mode of living and hunting. They are very filthy about their persons and habitations. I don't believe they bathe or wash themselves. Their costume consists of seal, deer, and bear skins, even more dirty and ugly than that of the native of Danish Greenland. When they stoop or bend over, a space of three or four inches is made between their shirt and pants, through which a portion of their body is seen black and grimy with dirt.

In the summer, they live in tupiks or tents, about five or six feet in diameter, made of seal skins, with the hair scraped off. The interior and exterior are filthy in the extreme—excretæ (dog and human), urine, and refuse of all kinds being all about them.

One-half the tupik is taken up by a pile of skins, upon which the whole family, and sometimes visitors, sleep—men, women and children, all crowded together and perfectly nude. Everything about them is oily.

In the winter, they occupy inglors or huts built of stones arranged circularly, half underground, with convex roof, having a hole in the top for ventilation and exit of smoke. The entrance is through a long corridor several feet in length, through which they crawl on hands and knees. These are much dirtier than the tupiks, and when filled with natives, their dogs, skins, wet kamiks drying over the lamp, and smoke from burning blubber filling the place, one cannot imagine how they live at all, and wonder why they have no more diseases than they have.

Their food consists of flesh entirely, using that of the walrus, seal, warwhale, white whale, reindeer, duck, little ant, and sometimes dog. They do not use salt at all, and have no vegetables whatever.

They have no religion, so far as I could discover, but believe that a bad spirit gets into things sometimes. Neither have they any system of medicine, although they have an angopop, who corresponds to the "Medicine Man" of the Indians, and who pretends to have the power of driving away the evil spirit.

When a woman is about to be confined, all the men are sent out of the village and the patient is attended by two other women. She kneels down on the floor, with the knees abducted, the buttocks resting on the heels, with head and chest thrown forward. One woman sits behind her with her arms thrown around the abdomen and presses down the uterus, while the other on her knees and elbows in front watches the progress and receives the infant.

The cord is first tied with a piece of tendon and then cut. The placenta is pressed out the same way.

They have no ceremonies of any kind. When a man desires to marry, he takes a girl on trial for awhile, and if she does not suit, returns her. They also trade their wives for a time.

The *third class* of Esquimos referred to, were seen on the west coast of Baffin's Bay, at Dexterity Harbor, about latitude 72° N.

Although of the same race as the Arctic Highlander, they are much inferior mentally. Their mode of life is the same, except, I believe, in the winter they live in ice ingloos.

The females of this tribe have their faces, wrists and hands tattooed in a fantastic manner. I think the number of marks has something to do with their married life. What it was, I was unable to ascertain. There was one young married woman who had all the marks except upon the chin, and when I asked the reason of their absence, she made a peculiar motion toward the vulva which I could not interpret.

I first thought there was some relation between these marks and child-birth, but there was an older woman present who had never had a child, and her face was covered with lines. Dr. Hall says the tattooing is the mark of married women, though unmarried ones sometimes tattoo. He says it is done from principle, the theory being that the lines thus made will be regarded in the next world as a sign of goodness.

From this, we may conclude these natives had an idea of a future state, although their cousins across the Bay had not. I do not think his theory is a good one, for if that was the object of the tattooing, the men would do it also, whereas they do not mark themselves.

The tattooing is done by means of a piece of sinew, blackened with soot, and then drawn under and through the skin by means of a needle.

The dead of the Esquimos are not buried, but placed in mounds of rocks, and are thus exposed to the wind and weather. The Esquimo suffers very little from disease, and the mortality is not high among them. From September, 1894, to September, 1895, there were only three deaths and seven births, and during the preceding year seven deaths and five births.

Of the deaths, one was from "a great blood" and one

from "cough." The rest were the result of accident either to their kyahs, on the ice, or falling from cliffs. As might be expected, catarrhal affections due to the cold and rheumatism are prevalent, especially during the winter season.

At Karnah, a village near Peery's headquarters, most of the natives were suffering from coryza, a bloody mucous discharge issuing from their nose and all coughing considerably. In South Greenland also, many were troubled the same way. I was not surprised to find tuberculosis common in Danish Greenland, but was very much amazed to find not only this disease, but also la grippe and gonorrhœa among the Arctic Highlanders. Of course, tuberculosis and gonorrhœa can be traced to the advent of Europeans, but it is rather hard to account for the grip, as so far as I could learn, none of Peery's party had the disease when they arrived, and except for a whaler once in a great while getting as far north as Cape York, they have no other communication with civilization.

Of course after such germ diseases are introduced, it is quite natural for them to be conveyed throughout the tribe. Their habits of taking a wife on trial, trading wives, and crowding together in close, unsanitary dwellings, favor the spread of such diseases.

From one of the whalers gonorrhœa was introduced, and went through the whole tribe. It ran a mild course, however, and they soon recovered.

Dr. Hall, in speaking of the West-Coast natives, says: "I was very sorry to find several of my Junnit friends at this place (Cape True) very sick from the complaint that was introduced to their race when first brought into contact with civilization, viz: consumption." Mentioning one of them, he says: "Sharkey's wife was rapidly declining; her bleeding at the lungs had left her white as the driven snow and poor as fleshless bones could be."

He noted several cases of this disease. Among the South Greenlanders, I observed two men suffering from pulmonary tuberculosis, and a girl suffering from tubercular knee-joint; and in North Greenland, a man, woman, and

boy, with pulmonary tuberculosis, and a girl with hip-joint disease, probably tubercular. The disease in these persons seemed to run about the same course as in people here.

In regard to la grippe, Drs. Vincent and Cook, who each spent a winter with Peery, said the natives suffered from that disease, and in South Greenland the physician said the same thing. Although I did not see any cases of it, I treated several persons for prostration that often follows this disease.

Other affections for which I treated patients were several cases of rheumatism and two of neuralgia, in South Greenland. Among the Arctic Highlanders was a young man suffering from chronic rheumatism, who was unable to walk. He had been confined to his bed of skins for a year and was very much emaciated.

There was also a man who had had an attack of cellulitis of the hand following an injury from a harpoon. It was nearly well when I saw it, except that his fingers were stiff, and for that reason he was unable to close his hand.

Among the West-Coast natives, at Dexterity Harbor, was observed one case of meningitis, probably tuberculosis, in a boy about six years old, and also a case of abscess of breast. The boy, when seen, was lying on his back on a pile of skins. He was taken sick about three or four days before, and his condition had not changed when I saw him. His temperature was not elevated, nor was his pulse disturbed very much. His tongue was coated heavily; he had no appetite, and was constipated. His appearance was characteristic of meningitis. He lay with his eyes closed, and when aroused, would get impatient, wrinkle up his face, etc., but when undisturbed, would lie perfectly quiet, with a placid look on his face. When the finger was drawn across the forehead, the characteristic red line was produced. Our short stay prevented me from observing him more carefully.

I saw the woman with the abscess of the breast one day, and again about thirty-six hours after. When first seen, it was quite large, red, and inflamed with pus oozing from a very small opening. She had it hanging outside her coat, exposed to the cool air. I wanted to open it, but she de-

clined. When next seen, the swelling had gone down entirely; very little redness remained; no pus was present, and she said it was all right.

I had expected to find scurvy among them, but did not see a case. I am of the opinion that they do not suffer from it. This is a disease that Europeans, who have wintered in the North, have been affected with from time to time.

Among the officers and crew of the "Advance" and "Rescue," who wintered north in 1850–'51, out of eight officers and twenty-seven men, one officer and nineteen men had the disease.

Dr. Benj. Vreeland, U. S. N., surgeon to this expedition, said the causes which produced the disease were a long absence from solar light, diet without change or variety, want of proper exciting exercise, personal uncleanliness, dreary monotony, and consequent depression of spirits.

The symptoms were generally uniform, the first change noticed being a peculiar white arch on the gums at the root of one or more of the incisor teeth in either jaw, followed, in a few days, by sponginess, lividity, ulceration and bleeding. Later, the lower extremities would become painful, swollen, indurated, and eschymotic; sometimes the changes in the legs would be the first symptom. Irritation of the rectum, with frequent small slimy and bloody stools, accompanied by pain and tenesmus, was also frequent.

Fortunately our party, not having any of the conditions favorable to it, escaped this disease.

I examined many of the natives for evidences of syphilis, but found none, nor did those who had spent two years with them, and were acquainted with every individual, know of a single case. I believe them to be entirely free from it.

The few diseases I have enumerated are, I think, all these Northern tribes are affected with, and I think it quite right that they should have even this little recompense for being compelled to exist in such a cold, desolate, and monotonous country.

No. 2, Sixth Street N. E.

Art. III.—Circumcision.

By J. SHELTON HORSLEY, M. D., Staunton, Va.

The object of this paper is not to discuss the mooted question of the universal adoption of circumcision as a hygienic measure, but to call attention to many cases that suffer great inconvenience, and frequently danger, from the non-performance of this simple operation. Neglect in cases of this kind comes more often from ignorance of the patient on the subject than from any other cause. Public opinion on medical and surgical subjects can nearly always be directed in the right channel by intelligent and persistent efforts on the part of the members of our profession.

This operation is of great antiquity, and is most familiar to us as a custom among the Hebrews, who circumcise all male children on the eighth day after birth. According to Herodotus, the Hebrews derived this custom from the Egyptians. At any rate, it is quite certain that it was practiced among other nations before adopted by the Hebrews.

It would need no other or stronger argument for the performance of this operation, in cases of phimosis or redundant prepuce, than the comparative freedom of the Jews from venereal diseases. As the Hebrews are as lustful as other races, this difference can only be due to circumcision, and as a reason for this difference it is simply necessary to call attention to the much smaller surface exposed in a circumcised penis for taking gonorrhœa or syphilis during coition. Besides, the folds of a redundant prepuce offer the best possible field for the venereal poison. The facts that about seventy-five per cent. of chancres and chancroids appear on the prepuce and glans penis, and that a large portion of these are on the prepuce, are strongly in favor of circumcision.

But there are other reasons almost as strong. Phimosis and a redundant prepuce frequently excite in youths masturbation with its train of evils, which, though overrated in the mind of the laity, is certainly of great importance. One of the best treatments for this habit is circumcision, and

certainly, as a prophylactic measure, it must be far more efficacious.

There are many cases on record of hernia due to the constantly increased force necessary to expel the urine through a phimosed penis, and more of varicocele from the same cause. Urethritis, and its extension in cystitis, may be caused by the irritation due to accumulated smegma, which can set up balanitis and a host of other inflammations of local character.

Almost every practitioner has seen some illustration of the reflex effects of phimosis or a redundant prepuce. They are almost as numerous as those due to the much slandered uterus in the female, and include all forms, from epilepsy to nocturnal emissions. Circumcision frequently relieves these symptoms in a most unexpected manner.

And last, but not of least importance, must be mentioned the subject of cleanliness, on which too much stress cannot be laid in all surgical diseases. It needs but a glance to tell that a properly circumcised penis with exposed gland is more healthy than one with preputial folds, covered with a mixture of smegma and urine, which too frequently accumulates to a disgusting extent from lack of proper cleanliness.

As to the methods of performing circumcision, the operations are about as numerous, and some almost as complicated, as for the radical cure of hernia. Among the most recent is that of Dr. John W. Ross, which appeared in the *Medical Record.* It consists in retracting the foreskin and inserting the glans penis in a test tube. The foreskin is then drawn over the test tube, fastened by a cord, and severed by a circular sweep of the knife just in front of the cord.

I have practiced several different methods, and shall describe the one that I think is best, as it is the simplest and gives better and neater results, both immediate and remote.

This operation is that described by Mr. Frederick Treves in his *Manual of Operative Surgery,* with a few modifications. The penis is washed with soap and warm water, then with alcohol, and finally with a solution of bichloride of mer-

cury (1 to 300). The instruments are boiled a few minutes in a two per cent. carbonate of soda solution, and the hands disinfected with soap and water, alcohol, and then with bichloride of mercury solution (1 to 300). This process, though not as necessary as in some other minor operations, should never be omitted, as it adds greatly to the comfort of the patient in after-treatment and shortens the process of healing. Besides, it is well for the surgeon to utilize every opportunity to form an "aseptic habit" in all operations.

A hypodermic syringe is sterilized by filling with a twenty per cent. carbolic acid solution in glycerine and water, and then filled with a four per cent. solution of cocaine hydrochlorate sterilized. A rubber band is applied to the root of the penis as a tourniquet, and the cocaine injected at several points on the prepuce just beneath the skin. A minute drop of carbolic acid at the point of injection will destroy pain from the needle, which can then be worked around in different directions.

The skin of the prepuce is marked with iodine opposite the corona, the mucous membrane, and the skin fixed by phimosis forceps or by two hæmostatic forceps, and drawn forward. A pair of narrow-bladed dressing forceps is then applied to the prepuce just anterior to where it is marked, and at an angle corresponding to the plane of the corona. Then a sharp bistoury severs the foreskin close to the forceps on *the penile side.* This makes an even cut, the skin retracts, and leaves most of the glans still covered with mucous membrane. The adhesions between them, if any, should be broken with a grooved director. Then slit the mucous membrane in the median line with scissors on a grooved director to the retracted skin. It is better not to trim away the mucous membrane. The skin retracts at first more than the mucous membrane, because it is more elastic and of larger calibre, but as soon as the calibre of the mucous membrane is enlarged by the median dorsal slit, it retracts to the same distance as the skin. Then approximate skin and mucous membrane by a continuous suture of fine catgut, and remove the rubber band.

Dress with a narrow strip of iodoform gauze, applied first by its middle to the dorsal portion of the wound, and then wrap the whole penis with this, using it as double-headed bandage, *i. e.*, applying with both ends at the same time, taking care to leave a sufficiently large aperture for the meatus. The two ends should terminate just above the pubis, and be fastened there with collodion. Some sublimated cotton is then placed around the head of the penis and the whole put in a small suspensory bandage.

If there is much oozing or discomfort, the dressing may be replaced within forty-eight hours; otherwise it will not be necessary to redress till the seventh day, when the wound will be mostly healed.

Art. IV.—An Improved Syringe for Infiltration Anæsthesia

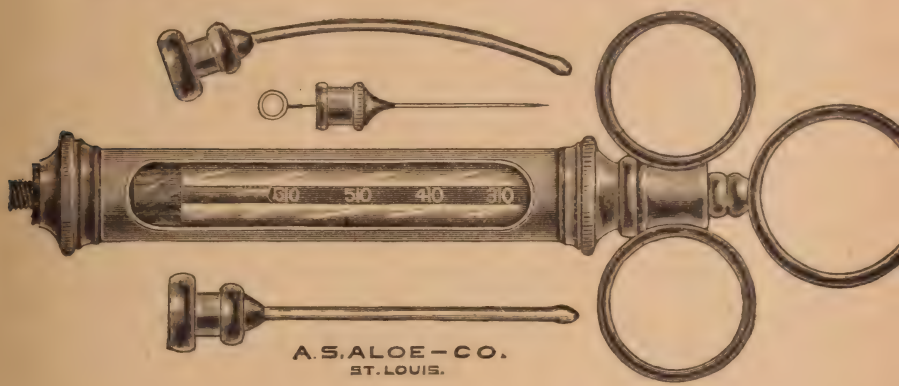
By BRANSFORD LEWIS, M. D., of St. Louis, Mo.

During the past year I have been making large use of Schleich's method of producing local anæsthesia by infiltrating tissues with innocuous solution of salt, morphine, cocaine, etc., the anæsthetic effect resulting from the method of applying the fluid rather than from the drug or drugs employed in it. It has been a source of great satisfaction to both myself and the patients on whom it was used. The minuteness of strength of drug employed removes every element of danger from that source, even though a large quantity of the solution be injected; and the completeness and promptness of the effects are advantages readily evident.

But I have met with one objection that has restricted the use of the method in a marked degree. It is the fact that, no matter how easily and satisfactorily it may be employed in the superficial structures, where there are no large vessels in danger of being punctured with the hypodermic needle when one is injecting in the depths of a wound in the neighborhood of large arteries or veins, as in enucleating

bubo-glands immediately above the femoral vessels, etc., the likelihood of running the needle into one of them and producing disastrous results is not a fancied one.

By means of the needles represented in the cut, I have



been enabled to do away with this difficulty. They are blunt-pointed, and made of German silver, so that, though of sufficient stiffness to be thrust into the connective tissues of a wound after the skin has been severed, they would not injure a blood vessel if pushed against one.

The anæsthesia is begun, therefore, with the sharp steel needle, and continued with either of the two silver ones. The choice between the latter depends on whether a curved or straight needle is more conveniently used.

The advantages offered by this improvement have shown themselves to be eminently practical and serviceable, and, in my estimation, will advance the scope and usefulness of the method to a great degree. This instrument was made for me by A. S. Aloe Co., of St. Louis, Mo.

ART. V.—The Germ Theory of Disease*.

By STUART McGUIRE, M. D., Richmond, Va.

PROFESSOR OF PRINCIPLES OF SURGERY, UNIVERSITY COLLEGE OF MEDICINE, ETC.

My first duty, Mistress President and Members of the Woman's Club, is to thank you for the privilege of addressing you this evening. It is a compliment undeserved, and, therefore, the more appreciated.

Your Association is composed of women of refinement and cultivation, of women anxious to be informed on the questions of the day, of women who, though not always able to give a reason for their own convictions, still demand a reason for the opinion of others, of women who have put behind them prudery with the hoopskirts of the past, and who have not assumed masculinity with the bloomers of the future.

Such being the estimate in which I hold my audience, I will not belittle you by flattery, nor divert you by attempted oratory, but proceed at once to discuss the subject assigned me—namely, "*The germ theory of disease, and its effect upon the practice of medicine and surgery.*"

Ever since the fall of man from his perfect state he has been liable to disease, and being a selfish as well as an intelligent animal, he has devoted much study to its cause, in order that he might avert its effect. His earliest conceptions of disease, while amusing, were so clouded by ignorance and superstition that they scarcely deserve mention. The great Hippocrates, the father of medicine, for instance, maintaining that the body was composed of four humors—blood, phlegm, black bile, and yellow bile—a right proportion, and mixture of which constituting health, an improper proportion or irregular distribution constituting disease: and it was not until the Phlogistic Theory was advanced that we have evidence of anything like scientific reasoning.

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*Abstract of a lecture delivered before the Woman's Club of Richmond, Va., January 13, 1896.

The Phlogistic Theory was based on a supposed analogy between combustion and disease. Physicians saw pestilence strike a community like a spark strikes among straw, and kindling, attack person after person in society, as fire would leap from house to house in a city. Stahl had taught, and his views were generally accepted by the chemists, that combustion was due to the liberation of a fluid or essence called phlogiston, which was inherent in all matter, and it was therefore inferred that if this be true, there must be some substance in man himself, which once put in motion acted similarly to fire, and spread with deadly effect. This theory was long held, and even to this day remedies which are directed against inflammation or inflammatory conditions are called antiphlogistics.

The next hypothesis of importance was called the Zymotic Theory, and was based on the similarity between the processes of fermentation and disease. It was known that when yeast was added to certain solutions containing sugar certain changes occurred. It was observed that a very small quantity of yeast was necessary to inaugurate these changes, that the quantity of yeast was largely increased by the changes, and that the new yeast thus formed would again produce fermentation if added to fresh solutions. It was claimed that infectious disease presented similar characteristics; that disease was started by the introduction into the body of a substance similar to yeast; that the quantity of the substance was increased by the process, and that the substance was afterwards conveyed from the sick person to healthy individuals, thus reproducing the disease, and rapidly diffusing it through a community.

Confidence in the "zymotic theory" of disease was greatly strengthened when Jenner, in 1798, began the use of vaccine virus as a preventive against small-pox. Here the physician had a substance which he could carry about as he could yeast. He could introduce it into the skin of a healthy person, and after a certain time a disease would manifest itself, just as he could introduce yeast into a solution of sugar, and after a certain time find the changes of fermenta-

tion. A small amount of either was sufficient, and in each case a certain period of rest was observed before the characteristic changes were seen.

Nor did the likeness stop here. It was found that intense heat destroyed the power of yeast, and the same was found to be true of vaccine virus. It was also known that when a solution of sugar had once undergone the process of fermentation, further change would not be produced by adding fresh yeast to it, and an analogy was found in vaccination, for a person once vaccinated is rendered insusceptible to further inoculation by the virus, at least for some years. All these facts furnished the strongest possible proof of the identity of the two processes, at least in mode of operation, however wide the difference in result, and the theory was generally accepted.

With the advance of knowledge during the present century the subject of fermentation and putrefaction were earnestly studied. Learned men in all parts of the world devoted their lives to their investigation; but it remained for the great scientist Pasteur to announce to the world, in 1858, their real nature. It had previously been supposed that they were due to the action of oxygen, and were a purely chemical process. Pasteur proved by a series of experiments, whose ingenuity and originality have rarely been equalled, that they were due to the action of a living micro-organism, and hence were a vital process.

There lived at this period in Glasgow, Scotland, a surgeon, named Joseph Lister, a man who, despite the demands of an active practice, found time for theoretical study. He read with interest the demonstrations of Pasteur and his fellow-workers, and at once concluded that the discovery was of great practical value. If fermentation and putrefaction could be prevented by exclusion of germs from a test tube, why could not diseases, such as suppuration, be prevented by exclusion of germs from a wound? On this premise as a basis, he began a series of experiments, and soon found that a wound made through clean skin, by a clean hand, with a clean knife, and protected by a clean

dressing, would heal without inflammation and without the formation of pus. These results were elaborated and published in 1865, and were the origin of the "germ theory of disease"—a theory which was destined to revolutionize the practice of medicine and surgery.

Let us first discuss the germ, and afterwards consider the methods by which it is studied, and its action on the body.

Bacteria, micro-organisms, microbes, and germs are synonymous terms for certain minute plants which belong to the lowest order of the vegetable kingdom. For a time it was claimed that they were animals, as some of them were seen to possess spontaneous movement; but now it is generally agreed that they are minute plants, and botanists have made great progress in perfecting a scientific classification. Some of them are harmless, and are only capable of causing fermentation and putrefaction; others are dangerous and cause disease. The germs of fermentation are employed by man in the manufacture of bread, cheese, beer, and wine. The germs of putrefaction are exceedingly useful in nature's economy, removing dead bodies which would otherwise encumber the earth. The germs of disease cause sickness, and frequently produce death.

Bacteria are found everywhere. They are as ubiquitous as the English sparrow. They are in the soil beneath our feet, on every object we touch, on our skin and in our clothing, in the air we breathe, the water we drink, the food we eat.

They occur in three distinct shapes. Some are round like a billiard ball; some are rod-shaped like a lead pencil, and some are curved like a cork-screw. The round are called *cocci*, the rod-shaped *bacilli*, and the curved *spirilla*. They are composed of protoplasms; few of them have any color, and most of them are incapable of motion.

They are exceedingly minute in size. One writer speaks of them lovingly as the "infinite little." They have to be magnified seven hundred times to be visible to the human eye; a thousand of them can swim abreast through the eye of a needle without being at all crowded.

At one time it was thought that all bacteria had a common botanical origin, and that the difference in form and action, which was observed, only represented alterations in the same plant, due to different stages of development or different environments. This theory has been abandoned. The different bacteria are as distinct as the different members of the animal kingdom. It is now known that a microbe always retains its shape and its peculiar characteristics, no matter what its age or surroundings may be. They breed true, and a coccus always produces a coccus, a bacillus a bacillus, and a spirillum a spirillum.

The multiplication or reproduction of bacteria is an exceedingly interesting process. The method consists either in the direct division or fission of the cell, or in the production of an egg or spore, which later develops into an organism like its parent.

Germs are nothing but minute plants; and for reproduction to take place they demand certain conditions—conditions which are necessary for the growth of other vegetable organisms—namely, a suitable soil, a certain amount of moisture, and a proper temperature. Bacteria cannot grow without food; organic matter or filth supplies this abundantly. They cannot grow without moisture, dryness retards their development. They cannot grow except at certain temperatures; extremes of heat or cold cripple them. Freezing renders them dormant, but does not kill them, for material in which they have been growing has been reduced to 186° below zero, and when it was warmed the bacteria resumed their activity. Intense heat destroys their vitality forever. Moist heat has been found more effectual as a germicide than dry heat. Infected material can be sterilized by exposing it to moist heat of 212° F. or boiling, for the space of five minutes, while to accomplish the same result by dry heat or baking, the temperature must be raised to 284° F., and maintained at this point for three hours.

Germs grow best in alkaline media; the presence of an acid kills them.

Certain drugs, such as bichloride of mercury and carbolic

acid cause their death. These drugs are called *germicides* or *disinfectants*, and are used in the treatment of disease.

The rapidity with which germs multiply when placed in conditions favorable to their growth is truly wonderful. A coccus beneath the microscope has been seen to divide in twenty minutes, and the two microbes thus produced repeat the process in the same length of time.

If it should require one hour to complete segmentation, and for the new cell to attain maturity, a single coccus multiplying by fission, according to Cohn, during one day would produce 16,000,000 cocci, and at the end of the second day would produce 281,000,000,000, and at the end of three days the extraordinary number of 47,000,000,000,000. Another writer says that the bacteria resulting from a single parent would fill the ocean in five days. Fortunately, there is a limitation to their growth, which does not admit in reality of such rapid development.

When germs grow in any media, they produce a poison which is called a toxin or ptomaine. It is not definitely known how this material is elaborated, and many different theories exist to explain its production. The simplest and most plausible is, that germs, like all other organisms, have excretions, and that the excrementitious matter which they throw off constitutes the poison. Toxines and ptomaines are chemical substances, and are not affected, as are bacteria, by either heat or germicides. They closely resemble the vegetable alkaloids, strychnine, morphine and atropine; and when introduced into the system, cause serious disturbances. The ptomain or toxin of different germs has distinct characteristics. Thus the ptomaine of the germs of suppuration produce pus, the ptomaine of the germs of lockjaw produce convulsions, and the ptomaine of the germs of diphtheria produce paralysis.

Bacteria are studied by cultivating them in test-tubes, by examining them under the microscope, and by inoculating them in healthy animals. Bacteria planted in a test-tube containing a suitable soil, and kept at a proper temperature,

will grow rapidly. The soil usually employed is an animal broth, or a solution of sugar, gelatine, or agar-agar, the latter a jelly-like substance obtained from sea-weeds. The growth of the germ becomes apparent to the naked eye in three or four days. Usually it is white, but sometimes it is of a brilliant color. In a liquid culture media, it forms a cloud, which soon settles to the bottom of the tube; in a solid culture media, it forms a delicate fern-like growth. Often the appearance is so characteristic that the variety of the germ which produced it can be told at a glance.

Bacteria can be examined under the microscope. At first, owing to the minuteness of the organism and the imperfection of the instruments, small progress was made, but recent improvements have made this method of study of great value. The germ can be stained with one of the aniline dyes placed upon the stage of microscope flooded with light by means of Abbe's condenser, and their nature determined with great accuracy.

Much information concerning bacteria is obtained by injecting them under the skin of animals and noting their effect. Regard for the opinion of the members of "The Society for the Prevention of Cruelty to Animals" restrains me from going into the subject in detail. I will content myself by saying that mice, rats, guinea pigs, rabbits, and dogs are commonly used for the experiment, and that many of our most valuable facts have been ascertained in this way.

By these different methods of investigation, much has been learned concerning bacteria, and many diseases have been proved to be due to special germs. I have secured from an institution with which I am connected cultures of various disease-producing organisms, and you here see growing in glass tubes the microbes of cholera, diphtheria, pneumonia, lockjaw, erysipelas, typhoid fever, malaria and tuberculosis. A few drops from any one of the tubes placed on your tongue, or injected beneath your skin, would produce the disease with which the tube is labeled.

The contents of this tube emptied into the reservoir

would cause thousands of cases of typhoid fever in this city: and should this tube be accidentally broken, few of my unhappy audience would escape diphtheria.

The safety with which germs can be handled, and the certain results which they will produce, would render them a dangerous weapon in the hands of a criminal. It is a wonder that the anarchists, who are often clever and educated men, and who have shown, by their work with explosives, that they are capable of patient study, have not already employed them. A day will come when the Czar will dread bacteria more than dynamite, because they can be used with such small danger of detection, and with such deadly effect.

The germs of different diseases have been subjected to all sorts of tests, tried under all sorts of conditions, in order to learn their peculiarities. Many strange facts have been learned.

One is, that some bacteria of great virulence can be rendered weak and comparatively harmless by breeding under adverse conditions, just as the Bushman of Africa has been deteriorated by existing for years under debilitating climatic conditions.

Another curious fact is, that certain species of germs have violent antipathy for each other, and, if placed in the same media, will devote all their energies to a conflict, and it is only after one species has exterminated the other that multiplication begins. The practical usefulness of these observations is obvious, and later it will be shown that efforts are already being made to prevent diseases by inoculating patients with attenuated germs, and to cure patients, the victim of one variety of microbe, by infecting them with a variety antagonistic to it.

When disease-producing germs enter the body and localize at any point, they multiply and produce serious symptoms. They act both locally and constitutionally—*locally*, by causing inflammation, and *constitutionally* by producing fever. The inflammation is due to the action of the germs. The fever is due to the action of the poison or toxin which

it forms. The poison seems to act like the venom of a snake, a small quantity being rapidly absorbed and producing marked results.

One attack of many microbic diseases, such as small-pox or scarlet fever, prevents a subsequent development of the same disease. This is explained by the fact that each germ requires a special food to support its life and vitality; that when it once infects an organism, it consumes all of the special food the blood contains; that this special food is never replaced; and that, owing to its absence, the germ cannot again maintain an existence in the organism.

It has been observed that some people "*catch diseases*" easily, that others never take them at all; that some people have a predisposition to disease, and others an immunity to it. This is explained by the fact that a person who has a tendency to acquire every disease to which he is exposed has blood and tissues which have feeble resisting power, which present a favorable soil to the growth and development of germs. A person who does not acquire disease to which he is exposed has blood and tissues which have strong resisting power, which present an unfavorable soil to the growth and development of germs.

If the facts just stated in regard to the germ theory be true; if microbes are so universally present in nature; if they multiply with such great rapidity; if they produce such dreadful consequences when introduced into the body, how does the body withstand their action? If we breathe germs, eat germs, drink germs, and come in constant contact with germs, why don't we all contract disease and die? This argument, while plausible, is answerable. There are no germs in healthy tissue, and for a microbic disease to begin, infection must come from without. There are three routes by which it can enter; the skin, the stomach, and the lungs, and nature has guarded each. The unbroken skin is impenetrable to the assaults of germs, and a perfect barrier against their entrance. It is only when there is a wound or abrasion, a missing link in the otherwise impervious armor that the germ can pass through it.

The stomach contains digestive juices which are strongly acid, and when a germ is swallowed with food or drink, the acid destroys it. It is only when sickness has weakened its action, or when indigestion has changed its re-action, that the germ escapes destruction.

The lungs are large sponges, great filters; and when a germ is inhaled with the air, it is caught in their meshes, and becomes powerless. It is only when bronchitis or other disease lessens their power or destroys their function, that a germ escapes their vigilance.

Even if one of these portals be passed, and the germ gains entrance to the body, it has other antagonists to meet and conquer before it can ravish the tissues or tax the constitution.

The blood is not only itself a powerful antiseptic, but it contains a cell called the phagocyte, whose duty it is to protect its home, and to attack all invaders. When the phagocyte and the germ meet, a battle royal ensues, and the phagocyte is usually the victor.

Experience shows that a man with perfect skin can safely dress suppurating wounds and handle decomposing material; if there be a wound or abrasion on his hands, he is in danger of blood poison. That a man with perfect digestion can safely swallow food infected with microbes of typhoid fever; if there be decreased acidity of his digestive juices from indigestion, he is in danger of the disease. That a man with perfect lungs can safely breathe air charged with the bacillus of tuberculosis; if there be inherited or acquired weakness of those organs, he is in danger of consumption.

The application of the principles of the germ theory to the practice of medicine and surgery has been of untold benefit to mankind. In surgery, suffering is lessened, convalescence is shortened, and lives of patients are saved. Regions of the body are now safely invaded which were hitherto believed to be inaccessible, and operations are now successfully performed which, if suggested before, would

have been considered the outcome of a diseased brain, or the freak of a disordered imagination.

It is difficult for you who visit the hospitals of this city to-day, and see the comfortable patients in their clean and airy wards, their wounds covered with artistic dressings, and their faces free from evidences of pain or fever, to realize the dangers which beset a patient before the antiseptic era, or to have any conception of the horrors of a metropolitan hospital of the olden time.

I recently read a description by a French writer of the Hotel Dieu of Paris. A hospital whose wards were immediately over the dead-house, and whose atmosphere reeked with the odors of putrefaction. A hospital whose only heat emanated from the bodies of its wretched inmates, and whose only ventilation was derived from the accidental defects of its structure. A hospital whose walls were soiled by expectorations from patients, and whose floors were covered with blood and pus from wounds.

Into this pest-house patients were packed four to six in a bed, and, in emergencies, were placed in tiers one over the other, so that some were reached only by the use of ladders. It is not surprising that gangrene and erysipelas were rife, and that one out of every four of the patients died. Lister is the magician who has wrought the change; the germ theory the agent he employed!

In medicine, too, the results accomplished have been marvelous. Plagues are prevented, epidemics are arrested, and contagious diseases are cured.

One of the first great discoveries in this department was Pasteur's treatment of hydrophobia by inoculation. This great scientist, in order to study the disease, produced it artificially in a rabbit by injecting under its skin some virus taken from the mouth of a rabid dog. When the rabbit finally died, he took some of its blood and injected it into a fresh animal, and hydrophobia again developed. He noticed that the second case was more severe than the first, and further experiments proved that the disease became more intense each time it was reproduced. Pasteur con-

cluded, that if the germ became more virulent under certain circumstances, that there must be other conditions which would render it milder. Investigation at length resulted in the discovery of these conditions, and in the production of germs which were so attenuated that they could not produce the disease in an animal, but would protect it from an attack of the disease. A patient who has been bitten by a rabid animal can now be protected from the disease by being inoculated with weakened germs, and hydrophobia, formerly the most horrible and hopeless of all diseases, has been robbed of its terrors.

The civilized world was startled not many years ago by the announcement that Koch, of Berlin, had discovered a remedy for tuberculosis, the dread disease which causes the death of one out of every seven people who die. It was a well-known fact that no animal could live in its own excreta; and by injecting the product of the bacillus tuberculosis into the body of a patient suffering from consumption, it was believed that the disease could be cured.

The treatment was published prematurely, published before its value was determined by experiments, published without the consent of its originator. Koch's lymph or tuberculin, has proven of little value, but it was in advance. Other investigators are now working on the same lines, and we may look forward to the results of the future with hope and with confidence.

Cancer, the terror of its victim, the *bete noir* of the surgeon, is by some believed to be due to a germ. It has been observed that its advance is frequently checked, and in some instances the disease is absolutely cured by accidental attacks of erysipelas. Investigation has shown that there is an antagonism between the microbe, which is supposed to produce cancer, and the germ which is known to cause erysipelas, and on the principle of fighting fire with fire, erysipelas is used to fight cancer. The cancerous growth is inoculated with erysipelas, and sometimes the cancer is conquered. It is a desperate remedy, but it is used in despe-

rate cases. Statistics certainly justify further investigation of the subject. The future only can determine its value.

The last advance which the germ theory has accomplished is in the treatment of diphtheria, a disease which hurries to an untimely grave so many of its victims. The treatment is an endeavor to increase the antiseptic power of the blood, and thus destroy the germ which produces the disease, and is carried out by injecting beneath the skin of a patient suffering with diphtheria a substance called antitoxin.

Antitoxin is prepared in the following way: The germ of diphtheria is placed in a test-tube containing broth, and allowed to grow for ten or twelve days. At the end of that time it has saturated the broth with its specific poison or ptomaine. The contents of the tube is then boiled, the heat killing the germ, but having no effect on the chemical poison it has produced.

A young and healthy horse is taken, and a few drops of the solution injected beneath his skin. It makes him very sick; he has high fever, loses flesh, and refuses to eat, but usually he recovers in two or three days, and at the end of a week is apparently well. He is then injected with the same material again—this time twice the former dose being used—and again the same symptoms come on, though not so well marked. This weekly dose of poison is continued for about six months, when the horse is found to have acquired a tolerance to its action, and can take an enormous dose without any bad effects being observed. To use a technical term, the horse has become immune. As soon as this is accomplished, the horse's neck is shaved and disinfected, one of the jugular veins opened, and about two gallons of blood withdrawn. The blood is allowed to cool, and the serum separated from the other constituents. The serum contains the antitoxin, and is concentrated and put in a suitable form for use. Before it is placed on the market, its power and strength is tested by observing its effect on guinea pigs in whom diphtheria has been artificially produced.

The action of this new agent on diphtheria is remarkable. Used in the early stage, it always cures, and it is only when its employment is too long delayed that it fails.

I have mentioned only a few of the many important results which the germ theory has already accomplished. Only enough to show you its present practical value.

Earnest men in all parts of the civilized world are working night and day upon the subject, and no one can predict what the ultimate outcome will be. Perhaps the possibilities are not exaggerated by a French writer, who says, "When man learned to protect himself from the wild beasts, he made the first step in civilization. To-day man is learning how to defend himself from microbes; it is a step of equal importance. A day will come when in Berlin, in London, in Paris, a man will not die of diphtheria, of typhoid fever, of scarlet fever, of cholera, or of tuberculosis, any more than he dies in these cities to-day of the venom of snakes or the teeth of wolves."

Candor compels me to admit that, despite the facts which I have adduced, and the logical conclusions which they bring, that the germ theory has not yet been universally accepted, and that there are still some men of prominence who do not yield in practice to its teaching.

The medical skeptics are much more numerous than the surgical infidels, and this is explained by the fact that medicine is yet but an art, while surgery is a science. The physician treats maladies which are hidden from his sense of touch and sight, and whose symptoms give but vague indications of their real nature. He goes to the bed-side of a patient, feels the pulse, examines the tongue, auscultates and percusses the chest, and prescribes medicines uncertain in their indication and indefinite in their action, and then either turns a prayerful eye heavenward, or calls long and loudly on mother nature for assistance. It is natural that he should regard the germ theory with suspicion. The surgeon, on the other hand, meets the enemy face to face, and in his bloody battle with disease for the life or death of

a patient, appreciates his power, and recognizes the potency of his remedies. By him the germ theory is accepted.

Only one surgeon of great prominence lives who denies its validity, and this is Mr. Lawson Tait, of England, a man whose wonderful success in abdominal work has made his name famous throughout the civilized world, but whose love of notoriety renders the honesty of his views open to suspicion.

In a recent paper read before the Birmingham and Midland Branch of the British Medical Association, entitled "A Criticism of the Germ Theory of Disease Based on the Baconian Method," he represents the views of the agnostics as strongly and vigorously as it is possible for them to be put. At the outset of his remarks, he says he wants to remind those persons who now sneer at his views as those of a mere practitioner; that for twelve years he was a hard-working and enthusiastic microscopist, and that during that time he discovered much which was then unknown, and unraveled the minute anatomy of certain structures with a completeness that has defied further addition. He says that the germ theory is simply an amusing hypothesis, by which everything is explained, and under which everything is squeezed. He says that the fact that the origin of certain diseases is due to poison has always been recognized, but the suggestion of the immediate machinery has curiously varied. The ancient Greeks and Hebrews believed that disease was a blow from an offended diety, and the Christian's favorite doctrine was, that it was a visitation from the devil; for both, the modern scientist has substituted the microbe, which is no logical advance over the belief of either. The ancient Jews were very practical and business-like people, and could have written sanitary articles in medical journals much better than some of their descendants do now. They knew the facts of sepsis, and had the most elaborate schemes of antisepsis, whose stringency of detail were not much more ridiculous, or probably much less satisfactory, than many of those which have emanated from Lister himself.

Mr. Tait then takes up the application of the germ theory

to the practice of surgery, and says that, being a very clumsy barber, he has no doubt he has implanted myriads of germs in fresh wounds inflicted on his face while shaving, and that no septic results have followed in his own case or in thousands of his fellow-sufferers. He ridicules the technique of antiseptic surgery, and uses as an illustration of its absurdity an article recently written by an American, in which, with great enthusiasm, the writer describes the method by which he performs an exceedingly simple operation on a child, giving in detail the antiseptic precautions he observes. "Sterilized gauze, sterilized bandages, and a properly sterilized cradle and nurse," says Mr. Tait, "secures the recovery of the germ-endangered baby, and no doubt a formal operation fee is charged after the danger is all over." Mr. Tait says that he has done a good deal of operative work, and he has never used anything but absolute cleanliness, and yet his published statistics have never been equalled. He says he has challenged Sir Joseph Lister over and over again to compare results with him, but he has ignored him with a lordly indifference. He says that the details of Listerism change with marvellous rapidity, and before they are six months old, are pronounced failures and are replaced by something new. The last of all these numerous phases is the disuse of chemical destroyers of germs and the adoption of aseptic surgery, which is nothing but perfect cleanliness, a principle which he has been preaching for years, and now, forsooth, it is the newest Listerism.

Mr. Tait says that after his early experience in surgery, it is a wonder he ever stuck to it; that during his pupilage in Edinburgh, he saw thirty abnominal tumors removed without one single recovery, and that when he left the land of his birth, it was with one fully made resolution—that he would never open an abdomen. In Edinburgh, if he saw the amputation of a thigh in the old Infirmary on Wednesday, there was a strong probability that the following week he would see the bared bone sticking through the anterior flap. If a breast was removed, an erysipelatory reddening of the flap would very probably occur on the following day,

and would be half way round the chest before the week was out, and the wound gaping and everything going to the bad. He left Edinburgh, and has been engaged continuously for the past twenty-eight years in making wounds, and he has never seen a case of erysipelas in his own practice. The improvement lies in the separation of patients, plenty of cubic space and fresh air, and is in nowise the result of chemical germicides. Mr. Tait says that it was Simpson who cried out most loudly for better ventilation and cleanliness, and against the use of dirty hands and sponges, and that he has been dead hardly these five and twenty years, and all his splendid work is as much forgotten as if it had never been done, and the glorious progress which has come out of it is given to a theory, which is no theory at all, but a phantasm, a system which has been proved an inconstancy and a broken reed—a thing which yields at every blast, either to scholastic logic or eclectic experience.

It will be seen that Mr. Tait recognizes the existence of a poison which produces disease, but refuses to admit that it is of microbic nature. He insists upon the importance of cleanliness, and upon the avoidance of contaminating wounds with dirt, but fails to say of what dirt consists. He prefers to deal in generalities—to speak of contagion as a condition, not an entiety. If it gratifies him to call by the name of dirt what his more advanced contemporaries have resolved into micro-organisms it is a weakness of his brain, which should be pardoned on account of the cleaverness of his hands. If, in practicing cleanliness, Mr. Tait has practiced aseptic surgery, so much the better for Mr. Tait; but he did it instinctively, purposelessly; and to have expected others to follow an example, for which he could give no reason, would be as illogical as to expect fruit from a tree which had no roots, or water in a brook which had no source.

The followers of Lister have, in the past, been guilty of many absurdities, and in their ranks are still found theorists who ride their hobbies hard. Many apparently contradictory facts still remain unexplained, and the results of

experiments, which seem diametrically opposed, have still not been reconciled, but all this will be remedied in time. When germs can be examined microscopically, can be differentiated by their appearance, can be cultivated in the laboratory, and can have their effect, when introduced into a healthy organism, accurately foretold, the science of bacteriology is not a farce. When a germ fulfills the requirements of Koch; when it is always found accompanying a certain disease; when it can be cultivated from the tissues of the animal dead of the disease, and when it will reproduce the disease if inoculated into a second animal, it certainly seems, to an unprejudiced mind, that it is the cause of the disease.

It is, of course, impossible to demonstrate positively the truth of the "germ theory," but such is the case in many other branches of science, and is no reflection upon medicine. No one would question for a moment the assumption of the truth of the "atomic theory"; and yet without that basis upon which to build, the proud structure which has been erected by the chemists would fall into chaos. It is impossible for the Christian to demonstrate the existence of a Deity, and yet, without the faith inspired by their belief, civilization would totter and barbarism return.

Art. VI.—Case of Gonorrhœal Ophthalmia of Both Eyes, Ulceration of Both Corneæ, Prolapsus Iridis of O S. with Recovery of Both Eyes.

By JAQUELIN A. MONCURE, M. D.,

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The following case is reported as being interesting and remarkable for its recovery, when the disease had destroyed the eye to such an extent as to make recovery seem impossible, and also in view of the adverse circumstances by which the treatment was attended.

P. H., an English sailor, age 31 years, native of the Isle of Wight, England, was admitted to hospital on the 28th of

May, 1895, with the following history: He had urethral gonorrhœa, which he is said to have contracted while his ship was at Rio de Janeiro, Brazil In addition to having urethritis, the patient was believed to be somewhat out of his mind, and also the victim of masturbation. He received no treatment of any consequence until his arrival at this Station, when he was at once removed to hospital for treatment.

Symptoms.—When the patient was first seen the conjunctivæ of both eyes were very much inflamed, and a copious flow of pus came from them. There was considerable photophobia. Both eyes had deep ulcerations of the cornea. The cornea of O. S. had a very deep ulcer in the outer upper quadrant, about half way between the inner edge of the iris and its periphery; the elastic membrane, endothelium and iris prolapsed through the ulcer, and it was this extensive prolapsus that made the prognosis seem so unfavorable. The cornea of O. D. also had a deep ulcer, but it was not as far advanced as that in the O. S., and there was no perceptible prolapsus.

Gonorrhœa Oris.—According to some physicians, there is great doubt as to whether gonorrhœa oris is ever met with; but I have no doubt about this patient having had it, as I saw him (the reader will please bear in mind that he was *non compos mentis*) *after* injecting a syringe full of a solution of boracic acid 0.75, and permanganate of potassium 0.12, with aqua destillata 60. c. c. into his urethra, put the syringe deliberately into his mouth, and draw it between his lips, with the result of a copious flow of gonorrhœal pus from the whole of the inside of his mouth 48 hours afterwards. In order to determine with absolute certainty whether the gonorrhœa oris existed or not, it would have been more conclusive if some of the pus could have been examined for the gonococci of Neisser, but unfortunately this was rendered impossible, as the necessary reagents for staining were not at hand.

Treatment of the Eyes.—The patient's eyes were first both washed with an 8 per cent solution of boracic acid. Then a few drops of a 4 per cent. solution of hydrochlorate of cocaine were dropped on the mucous membrane of the everted upper lids of both eyes; after giving the cocaine time to

obtund the sensibility of the parts, a crayon mitigé (consisting of nitrate of potassium two parts, and nitrate of silver one part, fused in a crucible and run into a cylindrical mould,) was gently applied to the palpebral mucous surface. The O. D. was kept constantly in a condition of complete mydriasis, under the influence of a 1 per cent. solution of sulphate of atropia. The O. S., on the contrary, was kept constantly in a condition of complete myosis, under the influence of a ¼ per cent. solution of sulphate of eserine, it being indicated, if possible, to draw the protruding iris back, out of the ulceration into the anterior chamber, by contracting the pupil, which was accomplished. Both eyes, notwithstanding the depth of the ulcers, responded so well to treatment, that paracentesis was not deemed necessary. Both eyes were freely, but gently washed with a bulb syringe, converting it into a temporary siphon by holding the end in the reservoir of liquid supply higher than the end of the egress of the fluid. The irrigations were given every one, two, or three hours, as long as pus flowed freely, with hydrargyrum bichloridum, in the proportion of 3 to 3500, the solution being first boiled and then strained. To prevent eye-lids from agglutinating, vaseline was applied between and under the lids, after each douche. Every effort was made to insure rest, by keeping the patient in bed and by application of supporting bandages to the eyes, but on account of the dementia, it was found impossible to do this—the patient invariably tearing the bandages off, rolling himself on the floor, and picking up any trash he could find there and rubbing and wiping his eyes with the same.

Treatment of Urethritis.—Having been told in the year 1878 by Dr. Allingham, ship's surgeon of the British steamer "Denmark," of the National Line, that the treatment English sailors received for gonorrhœal urethritis, was to have the exterior of the penis, especially the lower surface (when pendent) painted with tincture cantharides, and this being an English sailor, I thought this an appropriate case for such treatment; and at Dr. Guitéras' suggestion, cantharides cum collodion was applied, which shortly produced a fine blister and caused a considerable decrease in the volume of gonorrhœal pus from the urethra. This treatment was also employed and proved efficacious in arresting the tendency to masturbation.

Result of Treatment of the Eyes.—After nineteen days of the above treatment of the eyes, the frequency of the ap-

plication of the medicines being decreased *pari passu* as the symptoms became more favorable, the ulcer of O. S. healed, leaving a cicatrix, which in no way distorted the iris; and the ulcer of O. D. healed without leaving any cicatrix, but barely a facet. The patient was discharged cured, and with good vision in both eyes.

Art. VII.—Some Gynæcological Cases, So-called—Correct Diagnoses and Treatment versus Surgery.

By W. M. HOLLADAY, A. B., M. D., Hampden-Sidney, Va.

The vast number and the subjective character of many of the symptoms in uterine and ovarian disorders, together with the deceptive character of the objective symptoms, have led to many cases presenting similar symptoms being assigned to uterine causes falsely. Several such cases will be related to show how readily such mistaken diagnoses will occur, and how very careful must the physician and specialist be to get all other organs in a physiological condition before encouraging the development of a gynæcological habit. Some years since, it was common in obscure nervous disease to burn patches of mucous membrane in the nose; now, uterine irritation and castration go ruinously on, whilst other causes for the same symptoms are not searched for.

Case I.—Fanny J., negress, primipara, had been treated for some years for retro-displacement of uterus with a Hodge hard pessary. Pessary removed, a bland wash ordered for several days, a brisk purge, followed by a laxative tonic, and for two years there has been no return of any uterine symptoms.

Case II.—P. N., American, æt. 30 married, and one miscarriage, had been treated for metritis and all other uterine ills. As a last resort, ovariotomy was recommended. She refused. When first seen, she had been an invalid for two years; pain in region of right ovary; pain in back; intensely hysterical; very thin and sallow; leucorrhœa; found sigmoid flexure and colon distended. Gave a mercurial purge, and followed with $\frac{1}{16}$th grain of hydrarg. bichlor.,

$\frac{1}{15}$th grain arsenious acid in tinct. valer., *t. i. d.* In two weeks, she could walk a mile and return easily, and has been teaching for two years, walking one mile to school.

CASE III.—Mrs. W. C., multipara, for thirteen years had been treated by many physicians; cervix dilated; iodine and carbolic acid, pinus Canadensis, hot-water douches, iodine over ovaries, and everything else done or recommended from stem pessaries to ovariotomy, which was refused. (It is wonderful, the number of women to whom castration has been recommended as a cure-all.) *Condition.*—Pain in back and in ovaries; leucorrhœa, constipation, difficult micturition and menstruation, and slightly swollen feet, and an engorged liver, *with mitral regurgitation;* intensely hysterical; believed herself pregnant, and was sure all of her trouble was uterine. A bitter saline water was ordered every morning and a heart tonic given; and so soon as the heart did its work well, she became well, and in two years has had return of symptoms but once, when a return to the heart treatment relieved her promptly.

CASE IV.—F. R., æt. 28, negress, multipara; been wearing, from time to time, a Hodge pessary for retroversion. Iodine application; for some years was so treated when worried by backache, painful mictnrition, and coronal headache Examination found her urine very acid, and learning that her back ached as much with pessary as without, it was frequently removed by her. *Treatment.*—Pessary at once taken away, and put her on potass. bicarb., and she quickly recovered from that attack. Her trouble had been recurring—uric acid diathesis; a piece of litmus paper, properly used, had saved her pain, trouble and expense.

CASE V.—Age 25; unmarried. Had been treated for uterine prolapsus with a spring pessary that ulcerated her fearfully, She was broken down from overwork; and with rest and no uterine treatment speedily recovered.

Every observing physician can recall and add to these cases from his own experience, where a poor woman has gone through the whole gamut of uterine disease treatment when her uterus was not primarily at fault. Often the vaginal walls are relaxed, the cervix flabby, backache, and painful or difficult micturition present where there is no uterine trouble—simply the whole musculature is relaxed, causing a loaded sigmoid flexure and rectum to misplace a uterus, and so engorge it with blood as to congest the vagina

and increase vaginal and uterine mucous secretion unduly, especially when aided by a corset and constricting clothes band. Sometimes the lesion is in a distant organ, as in Case III; the heart lesion crippled the liver, and the other symptoms followed in its path; so for thirteen years she suffered as much from treatment as from disease, and the distinguished gentleman who anæsthetized her at any rate should have discovered the heart lesion, and have treated it; but instead, her uterus was dilated and cauterized.

The dilators of Wathen and Goodell are pretty intstruments, and no doubt needed, but the cervix uteri is a circular muscle designed to contract, and it does its work fairly well on the whole, and will no doubt dilate itself generally when needed to do so. So please do not use the instrument unless some stenosis be present or you have other grounds for exploring the interior of the uterus.

Stem pessaries may be of use, but it requires a sturdy faith and a peculiar nervous organization for their use. It is a wonder that any woman would or could wear the hard rubber or the covered steel spring—they are dreadful. And again, perhaps the uterus is not displaced. No doubt there may be individuality in uteri as in nares, and few of the latter are straight. The penis, at any rate, differs widely in shape and proportion, and retains comparatively good health.

There is nothing new nor anything that the majority of physicians have not noticed for themselves in this; but that there is need for such a paper these cases and some of the recent reports but too well show. Too many cases are supposed to be uterine, both in subjective and objective symptoms, when the trouble is elsewhere and perhaps concealed. The uterus pays a tremendous penalty for being accessible. Let our general practitioners and specialists try all modes of treatment before treating the genital tract locally. One cannot but think that the vagina was made for other purposes than to be dilated with specula, pessaries, tampons covered with various caustics, and otherwise irritated. The cervix was meant to stay closed save only occasionally, and we may well doubt if the uterus was intended for explora

tion with a sound. So let us look well to the health of the other organs, to dress, to matters of personal hygiene, and to sexual hygiene before we start on a cruise against the genital mucous membranes that too often ends in ovarian excision.

Above are two cases (II. and III.) reported where excision was proposed, where the trouble, when found, was easily remedied, and would have been found by the distinguished gentlemen who had treated them, had they been looked for. And the reports of our fashionable castrators show too many cases of hydro-salpinx cured by excision to keep one from indulging in two thoughts—that possibly the disease had not existed save from uterine irritation caused by treatment; and that excision was unnecessary even after the existence of the disease.

Of course, no one can deny that uterine disease, from a variety of causes, is far too common, and with one operator reporting twenty-two cases of ovariotomy in twenty days, some are convinced that castration is too prevalent. Castrate when necessary, but be very sure it is, for there can be no intrinsic reason why feminine genitalia are more prone to disease than male. No virgin should have a uterine disease that need cause such an operation. Teach our women a proper personal hygiene of dress, exercise, cleanliness, and let them desist from seeking abortions and miscarriages, and, with it all, teach them a proper sexual hygiene, for many an endometritis is due to habitual sexual sins—*e. g.*, a woman who, in the sexual act, habitually stops short of the orgasm, will soon be a proper gynæcological subject; if told the reason by the inquisitive physician whom she has questioned concerning her whites and back and headache, she will find a remedy, and one is surprised how quickly and completely she recovers.

Tonic treatment of such cases as the above on the lines laid down does not bring as great a pecuniary reward, nor does it bring as much fame as the use of the knife; but it adds greatly to the comfort of the victims of uterine dis- and to the self-respect of the physician who has departed from a routine practice.

ART. VIII.—The Endemic Fever of the Eastern Shore.*

By GEO. W. LeCATO, M. D., Wachapreague, Accomac Co., Va.

Mr. President and Fellows:

At the request of the chair, I have selected, as the title of this paper, a subject I trust will be none the less interesting because common-place and familiar—"The Endemic Fever of the Eastern Shore."

Twenty-five years ago, the above title would have suggested the discussion of a disease differing materially in most of its essentials from that to which it now applies; for it is absolutely true, as we all know, that our present endemic of continued fever has not only quite supplanted the old types of our former periodical endemic, but is doubtless increasing in prevalence year by year. This fact naturally attaches a certain practical importance to its study, and furnishes my excuse for this subject. What I may have to say, however, will be merely cursory, embracing mainly such views as have been drawn from my personal observation, leaving you to take for granted the doctrines of etiology, pathology, and treatment commonly accepted by the profession.

In the first place, I shall state, as my individual conviction, that all the forms of continued fever prevailing on the Eastern Shore are of one origin, and due to a uniform specific poison. In other words, I believe that all the forms of our present endemic may be safely summed up under the title of *typhoid fever*—a specific disease, varying from time to time in many of its salient features, like other morbid entities, mainly as the result of peculiar local environment, systemic condition, and methods of treatment. This idea is admittedly true of most diseases. No one would expect, at the present day, that pneumonia would recover, as a rule, under the profoundly sedative treatment of Kasori, or the sanguinary lancet of the phlebotomists of

*Read before the Richmond Academy of Medicine and Surgery, January 15, 1895.

former days. But statistics prove that the success of our fathers, in the treatment of this disease, was quite equal to that of ours. Pneumonia must have changed type in some particular essential; and yet we have the sub-crepitant rale, pulmonic consolidation, the rusty sputum, occasional pulmonary œdema, and even purulent infiltration—the whole sum of pathological sequence. According to my observation, we have, in the continued fever of to-day, as a rule, the prodromic malaise; the tendency to epistaxis and other hæmorrhages; marked sensitiveness of the bowel, in spite of constipation; the diurnal cycle of temperature; even rose-spots in some cases; occasional perforations of the bowel—in fact, the well-known evidences of a peculiar specific poison, expending its local force in the right iliac region, and in the presence of which our antiperiodic sheet-anchor is worse than a delusion. Granted that in private practice we are not often permitted the post-mortem evidences of Peyerian inflammation and ulceration; so complete a picture leaves us little room to doubt that the fever of to-day is the genuine *enteric* of Geo. B. Wood, the *dothinenteritis* of Bretonneau, and the *typhoid* of Louis.

True, in an experience of thirty years, I have recognized the disease under varying manifestations. We find at the present day less coma-vigil and muttering delirium, as a rule; we have less trouble to restrain the bowel; cases do not run so rapidly to what is known as the *typhoid state*; in a word, there appear to be more mild attacks now than formerly. How much of this may be due to a recent modification in the intensity of the poison, and how much to the present vogue of withholding active medication, may be an open question; but my observation has never led me to believe the essential nature of the disease has sufficiently changed to entitle it to a new name.

I am sure I have never recognized a typical case of Dr. Woodward's so-called *typho-malarial fever*. As a matter of fact, I have not observed the two distinct types that enter into this supposed hybrid, manifesting themselves unmistakably in the same individual at the same

time. I think I have never seen the one type run into or consecutively follow the other. Finally, I have never known any case of so-called typho-malaria to be cut short, or even modified, by anti-periodic treatment. Rather, on the contrary, I have been led to suspicion that these two poisons are so specifically distinct as to be in some way mutually antagonistic. Certain it is, however explained, that on the Eastern Shore, as elsewhere, the presence of one type, as the endemic, materially qualifies the prevalence of the other. I can recall a period in my earlier practice when continued fever, in Accomac and Northampton, was a comparatively rare disease. The unfortunate reputation the peninsula had earned at that day as a hot-bed for malarious poisoning, has not yet been lost, though, as we all know, no longer deserved. If we accept the so-called typhoid germ as the etiological factor in the production of continued fever, and the micro-organism of Laveran as the essential element in paludal poisoning, it would be interesting and instructive to demonstrate the correctness or absurdity of the convictions I have stated; but, so far as I know, these important demonstrations have not been made.

Of the peculiar character of the typhoid poison, we have, at present, only a broad field of speculation and the wonderful revelations of the microscope. Unfortunately, it may be said of the fashionable microbic theories, that while they have enlarged our learning, they have not greatly increased our practical wisdom. Does the disease really depend upon a microbe? If so, what are the peculiar conditions of its generation? Where does it mainly inhabit—the food we eat, the water we drink, or the air we breathe? And what peculiar change of local condition will explain how and why the typhoid germ of to-day should have so completely supplanted the miasmatic germ of thirty years ago? These are all practical questions of the greatest importance to us as practitioners—questions for which we are vainly seeking answers, not only from our own observation, but from the scientific investigations of others; for, locked up in these mysteries are hidden the problems of prevention and cure.

Medical literature teems with plausible theories; you pay your money and you take your choice. Practically, the solution appears as remote as before. I confess that, individually, I have inclined to many different theories along this line. For instance, I had found typhoid so often among families drinking out of polluted and even filthy wells, I became a confessed convert to the poisoned water theory. Ultimately, I had a patient who was herself a crank on this very subject. For months no single drop of water had been allowed to pass to her stomach that had not previously been boiled. Strange to say, she was the only member of her large family stricken. I can recall a family in which every member was afflicted *seriatim*, who got their water from a driven pump thirty feet under ground, the pump itself situated on the highest elevation of the premises.

On the Eastern Shore, at least, the water supply derived from underground springs of higher or lower level, evidently has no connection with the prevalence of typhoid, as has appeared in other situations.

Another fact, hard to reconcile with the trend of our accepted theories, is that the poison is not necessarily bred in filth. The lady of the household last referred to, was an uncompromising crank on the extremes of cleanliness. Indeed, on general principles, it may be said that the higher the civilization, the more obnoxious we become to typhoid infection; certainly the poor and squalid appear to have no peculiar claims of class distinction to the disease. And so, unfortunately, some practical negation always appears to shut us off in the line of any theory we may attempt to pursue. For the present, to be candid, I confess I am entertaining no very settled notions respecting the etiology of typhoid fever. I am inclined to think we know as little of practical value on this subject as did our fathers. *They* hinted darkly, in their day, at certain poisonous "humors" manufactured in the great laboratory of nature under laws of chemical affinity beyond their chemistry. In the later wisdom of our day, we call these results *ptomaines*, without being able to explain the chemical processes involved in their

generation. The guess of our fathers was probably a cloak for their ignorance that fitted as becomingly as the newer cut of a later day, and doubtless they wore it as honestly. And I am verily coming to believe in my own mind, the time is not distant when the *ptomaine*—the old "humor" of our fathers—will play a stronger rôle in fashionable etiology than the present popular and omnipotent microbe. History repeats itself in many divisions of human research. It may be we are already drifting backwards towards the theory of our fathers, to take new bearings from old land-marks and lay out new lines of research not so much in the domain of bacteriology as in the expanding and limitless field of spontaneous toxicology.

I have never believed for a moment in the *contagion* of typhoid fever. It may be *infectious* in certain ways not well understood. Its specific poison is doubtless localized, and those obnoxious to it, exposed to like conditions, experience like results. I think I have never discovered stronger evidences of the contagiousness of this disease than apply with equal force to malarious fevers and even common colds.

I shall not consume a moment with reference to its symptomatology. We all agree that the diagnosis is often difficult and sometimes impossible in the earlier stages; but that the thermometer may be safely trusted to settle the doubt, even short of those characteristic features common to its full development. And, in the matter of prognosis, I shall simply say there is no disease known to us of so grave a character, involving so long a course of continued pyrexia, and subject to so many complications and accidents, that so often ends in complete recovery. Still, the maxim of prognosis laid down by the older writers has probably never been improved upon, namely, that while no attack is so desperate as to encourage despair, there is none so mild as to be without danger.

What I may say of the treatment will be in nowise exhaustive—having reference mainly to my own views and practice—not because I wish to appear egotistic, but because

I desire to invite discussion; to draw out a comparison of opinions and experiences for my own instruction as well as yours. I have held for many years that the professional world should long ago have reared a monument to that philosopher, Pitcairn, who, when asked what he thought of a certain treatise on the cure of fevers, replied, "I do not like fever curers. You may guide a fever; you cannot cure it. What would you think of a pilot who attempted to quell a storm? Either position is equally absurd. In the storm, you steer the ship as well as you can; in a fever, you can only employ patience and judicious measures to meet the difficulties of the case." Perhaps the application of this doctrine, limited to the management of typhoid fever, has not only gone a long way to make the fever of our day a milder disease than formerly, but has really involved the explanation of our present success. Until we unravel the mysteries before alluded to, typhoid will probably remain in the class of so-called self-limited diseases. However revolting to our sense of professional pride, we may as well admit there is no weapon known to our science that will strike down the malady at any period in its progress, or materially abridge its duration. Among the painful reminiscences of my earlier professional life, I recall to this day the hesitation with which I accepted this fact. And yet, what serious disease is there in which more may be done to relieve suffering, ward off danger, and ultimately lead the exhausted victim to recovery?

I have an abiding faith in the thorough, but careful, cleansing of the intestinal canal as a preliminary early treatment. The bowel is to be the battle-ground, and the ileum to bear the main brunt of the contest. If this is not the avenue through which the poison originally reaches the circulation, it is certainly the outlet of depuration, and consequently a dangerous seat of auto-infection. Here the long series of morbid processes are to be carried on, whether we incline to the modern theories of microbic multiplication or the older notions of chemical putrefaction and fermentation. But the choice of means to this end is a matter of grave im-

portance. My own experience is that the most unpromising cases falling under our observation are those that have been doctored at home with compound cathartic pills and other irritant purgatives. One of the earliest deaths I have ever seen in the disease followed two or three doses of croton-oil, administered with the avowed purpose of "touching" an innocent and falsely accused liver. In spite of some recent journalistic assertions, I should not dare attempt the use of any purgative irritant to either the mucous or muscular coat of the bowel. I usually give one or two small doses of calomel, following with salines and large enemata to flush the bowel. I am still old-fashioned enough to believe that calomel unloads the portal circulation, that it stimulates glandular excretion, and that bile limits intestinal fermentation.

An imperative necessity is the regulation of the diet. The victim has a long and doubtful struggle to encounter; the vital forces must be provided for. And yet states of abnormal temperature impair and even suspend the digestive powers. Solid food is rarely digested, and if it passes into the bowel it must necessarily become not only an irritant, but if you please, a culture-field for microbes, or a fermenting mass that only adds to the tympany, diarrhœa, and consequent pyrexia. Fluids are more easily absorbed and furnish little residual bulk. The practice laid down in some of the English hospitals to give no food during the fever, that will not easily pass through the meshes of a fine sieve, is at least safe. I encourage the free use of water, plain, medicated and flavored. I believe in its refrigerant and depurative action.

Is there anything to be done to limit the propagation of microbes, or abate the tendency to putrefactive changes in the bowel and blood? This is a very interesting practical question, and medical opinion is in no wise agreed upon the answer. A number of years ago I began to give what we know as *carbolized iodine*, partly on the theory of its germicidal properties, mainly because of the professional policy that demands in all cases some sort of medication. I shall

not tire you with any notes on this subject, but will simply say that without expecting marked results my experience has confirmed my confidence in the remedy. Recent observation has inclined me to the belief that the *phenic acid* in this combination is the valuable factor, and I usually leave out the iodine now because it renders the acid less acceptable to the taste. There are few patients who object to small doses of the acid properly diluted and flavored, and to get its results, it must be regularly and steadily continued day by day, from early morning until late bed-time. I never give medicine or food during the night, except to meet the demands of a pressing indication. While this remedy is evidently not a direct antipyretic, experience proves that after its administration for several days the temperature falls, as a rule, the diarrhœa moderates, the tympany lessens. Recent studies of the physiological effects of phenol appear to indicate that it is not only an anti-septic, germicide and local anæsthetic, but a vaso-motor excitant; Bert and Jolyet claiming that it acts like strychnia on the excitability of the medulla. If this be true, it stands on physiological grounds as an ideal remedy in this and other low forms of fever due to septic poison. This view accords with my own experience. Dr. Robie Wood, of New York, has lately claimed that it tends to prevent the falling of the hair.

The treatment of high temperatures has been, for the past several years, one of the most interesting questions connected with the management of fever. In private practice, the Brandt method of cold baths is an awkward and bunglesome recourse, which may be simply eliminated from present consideration. While I might find a case in which I should be tempted to employ it, I have not yet found such a case. I rarely use any internal medicine for the reduction of temperature. I experimented in my own individual case, during an attack of this disease, with some doses of the coal tar derivatives, and I shall never attempt this treatment again. My personal conviction is, that under the readings of the thermometer we are apt, in this day, to grow

unnecessarily apprehensive in the matter of temperature, and lose sight of other indications hardly less important. It is undoubtedly true that high temperatures coincide with desperate conditions, but as to which may be the cause and which the effect is always a question of practical interest. For instance, an excessive temperature induced by a mass of fermenting milk-curds in the bowel could not be scientifically and appropriately treated with a cold bath. And it is wise in all cases of hyperpyrexia to investigate for any possible condition that may explain the rise of temperature with the hope of being able to apply treatment to the cause rather than the effect.

In spite of the commonly accepted view of damage to the integrity of animal tissues under high temperatures, I believe our apprehensions are in danger of being over-excited. Experiment has demonstrated, time and again, the remarkable resistance of the human body to extremes of heat, even under long exposure. It is a question, then, how far we may be justified in our efforts to reduce temperature that involve either prostration or unnecessary perturbation. I can recall several cases of this disease, making good recoveries, in which the average of minimum temperature did not fall below 105° for eight days; and experience has certainly taught me to look with more anxiety to the pulse for a warning of peril than to the thermometer. Sponging, either cold, tepid, or warm, over the whole body, and continued, more or less persistently during much of the afternoon and evening, when the maximum range is being reached, has rarely failed, in my practice, to moderate the temperature and promote comfort and sleep. The end is thus attained without unnecessary fatigue, dangerous movement, or even mental shock. In addition, I have sometimes given one or two doses, 5 grs. each, of antikamnia and quinine, during the afternoon and evening, for the purpose of anticipating and prolonging the remission, softening the skin, and securing quiet sleep.

When the patient begins to show signs of muscular prostration, and the force of the heart's systole is apparently

failing, my main reliance for years has been placed on strychnia, given in small doses and often. I feel sure that many a flagging heart may be sustained by this remedy through the trying ordeal of the last weeks of an attack. On the subject of alcohol, I have nothing to add to what you already know, except to say that in late years my doses of whiskey are much smaller than they used to be, and that I expect less from it now than formerly.

Of the manifold incidents and accidents presenting themselves in the course of the disease, I have not the time left to speak. A consideration of these would make up really the most interesting and important part of a paper on this subject. It is exactly here that the best judgment of the physician is most severely taxed and his skill exemplified. It may be said, in a general way, that the doctor who is the most watchful, the quickest to apprehend the peril of complications, and the most resourceful in wisely meeting emergencies, will have the best success. But the field is too broad to be entered. I want to call attention, however, to one, not very frequent, but occasional, distressing symptom in nervous subjects suffering with this disease—more common now than formerly—insomnia. Patients do not always sleep who appear to sleep; are not always properly rested by the apparent sleep they do get, because the sleep is not sufficiently profound. I shall never forget the luxury that a few doses of opium brought to me in the latter stages of this fever. I will add a passing reference to that common and serious event which so often complicates mild as well as severe cases—hæmorrhage from the bowel—to say I have found large doses of opium the most useful treatment. The exigency is often urgent and pressing; there is no time to waste on astringents. Peristalsis must be profoundly controlled, and the heart's action also. These threatening cases often do well eventually, but it happens the only case of typhoid fever I have lost during the past four years was a very mild case that died speedily from this complication. I had meant to say something about relapses and recrudescences of fever, so common in typhoid, but this paper has

already exceeded its legitimate limits. I can only repeat, it was not designed to be in any way complete or exhaustive; and I submit it merely as a text for this afternoon's discussion, that we may wisely compare views and experiences, and thereby further fit ourselves to measure up to the serious responsibilities of our profession.

ART. IX.—Case of Acne Varioliformis—Clinical Lecture.*

By ARTHUR JORDAN, M. D., D. D. S., of Richmond, Va.,

IN CHARGE OF DEPARTMENT FOR SKIN DISEASES, ETC., DISPENSARY OF UNIVERSITY COLLEGE OF MEDICINE, ETC., AND SPECIAL LECTURER ON HYGIENIC DERMATOLOGY AT THE WOMAN'S COLLEGE, RICHMOND, VIRGINIA.

Gentlemen:—The case which I have the pleasure of presenting to you is of especial interest, for on the one hand you are enabled to study the lesions of a not very frequent disease, while on the other you can form an indelible mental picture of an affection which is ofttimes most beautifully imitated by a pustular syphilide.

CASE.—*Acne Varioliformis.*—We see before us a colored man of a light brown complexion, aged 28, presenting himself for treatment on account of an eruption limited to his face. Arranging the objective symptoms in such a way that we may crystallize our ideas into a diagnosis, we notice that his skin, on the face, is somewhat thickened, and that he is the subject of a moderate seborrhœa oleosa. Upon careful examination of the trouble, we find no comedones; but, scattered over the forehead, invading the margins of the hair and encroaching upon the region of the glabella, we observe pustules, papules, each surrounded by more or less inflammation, and deep pits, here and there, in varying degrees of contraction. We notice further that the scabs of the pustules are generally flat, but in several places they present a cupped appearance. Upon removing some of these scabs, we expose well-defined pits or depressions, showing that the epidermis and a part of the corium have been destroyed, *en masse.* We see also the evidence of scratching, hence we conclude that there is some disturbance of sensation.

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* Delivered before the Class of the University College of Medicine, Richmond.

From our observations, we are quite ready to diagnose the disease, but we shall hold this in abeyance until we have it corroborated by the subjective symptoms. The patient has no occupation at present, but has worked as a hostler; he first noticed some bumps on his forehead, about two weeks ago, which he thinks were caused by a razor used in trimming his hair; he complains of a burning or itching, gives no history of syphilis, nor do we find any remaining evidences of a primary lesion.

Arranging the data in this case, we find that we base our diagnosis on the following points, viz:

1st. The location of the disease—the forehead is usually the locality selected by acne varioliformis, though it may be found all over the face.

2nd. The form of the scabs, and the consequent pitting, showing a tendency to be more of a pock than a pustule.

3rd. The several depressions that are being converted into scars by their gradual contraction.

4th. The exclusion of a syphilide.

Passing on to the treatment, we must observe the following indications, viz:

1st. To relieve the patient's discomfort and prevent further formation of papules and pustules.

2nd. To give, empirically, some general tonic treatment.

3rd. To remove, as far as lies within our power, the resulting scars.

To meet the first indication we shall order a lotion of

℞.—Potassæ sulphuratæ.
Zinci sulphatis.
Glycerini.....āā ʒi.
Aq. rosæ.....ad ℥iv.

M. et Sig.—To be used twice a day—after the parts have been scraped with the dermal curette.

The second indication is met by any tonic that you might prefer. Dr. Bulkley has given a very good mixture in the following:

℞.—Potassæ acetatis.....ʒiv.
Tinct. nucis vomic.....ʒij.
Ext. rumicis fluid.....ad ℥iv.—Misce

The third indication is met by massage, or by covering the diseased surface with a strong salicylic acid and creasote plaster muslin, 20:40 per cent., for a week, changing the plaster twice daily. The plaster is then discontinued, and the tender skin dressed with zinc oxide ichthyol, 10:5 per cent., salve muslin, till the epidermis is restored. It may be necessary to repeat this treatment should the first cycle not prove satisfactory, it being remembered that when the corium has been deeply invaded the sear cannot be entirely removed.

412 *East Grace Street.*

Art. X.—A Critical Review of Modern Operations for Hæmorrhoids*.

By SAMUEL S. EARLE, M. D., Baltimore, Md.

Professor of Physiology and Diseases of the Rectum in the Baltimore Medical College

The recent advances in surgery have removed the operation for hæmorrhoids from the category of serious risk and great uncertainty to that of almost absolute safety, with very definite results. It is now no longer a question of which operation is the least likely to be followed by septic or secondary hæmorrhage, but which will give the greatest immunity from relapses; the least suffering and inconvenience to the patient, and the least detention from business.

I will begin the enumeration of the modern operations for hæmorrhoids with the consideration of what is generally known as *Allingham's modification of the old ligature operation*, considering all previous methods as now entirely unscientific, and in the light of modern surgery should be relegated to the past. Nor shall I undertake to describe minutely this or any of those I shall speak of in this paper, prefering to refer you to the text-books for such details.

Allingham's Modification consists of trimming up the

* Read before the Semi-Annual meeting of the Medical and Chirurgical Society of Maryland, November, 1895.

hæmorrhoid to a narrow pedicle, ligating it, and cutting it off just below the ligature, leaving only a short stump to slough, and an open wound to heal by granulation. With the introduction of this method rectal surgery made a long stride in the right direction, and learned, for the first time, how to meet successfully and scientifically what up to that time had been two of the most serious results of those operations—viz.: hæmorrhage and septic infection. He recognized that the principal source of danger from hæmorrhage came from the superior hæmorrhoidal artery, which always descends from above into the hæmorrhoidal tumor, and is effectually secured by ligation of the pedicle; and that the chief source of danger from septic infection under the former method, was the practice of returning into the rectum the entire tumor mass, which had been strangulated by a ligature, and allowing it and the discharges from it to remain in the rectum for six or seven days. This he obviated by cutting off the tumor, and getting rid of the discharges by moving the bowels the third or fourth day after operation.

The good results of these suggestions have been abundantly proven by many surgeons, and by the very satisfactory showing that Dr. Allingham makes in the last edition of his work, "that of 4,013 cases operated on in St. Mark's Hospital, London, there only occurred one case of doubtful pyæmia, and that the death-rate, from all causes in operations on internal hæmorrhoids by ligature at the same hospital, for a period of over forty years, was only one in every 670 cases." This includes five cases of death by tetamus, four of which occurred in the spring of 1858, when the disease was very rife in London, and this is all the more striking as no others have occurred there since.

I think, without much question, this is the most popular operation for hæmorrhoids at this time, certainly so in England, and as much so as any other in America; and with the exception of Outerbridge's operation, which will be mentioned later in this paper, is, in my opinion, the best, safest, and one of the easiest to perform.

The next operation to be considered in point of seniority, and which is very popular in this country, especially with those who only operate occasionally, is the *clamp and cautery*, generally associated with the name of Mr. Henry Smith, although Allingham says, "it was first devised by Mr. Cusack, of Dublin, and was first introduced into London by Mr. Henry Lee, of St. George's Hospital" (page 149, Allingham on *Diseases of the Rectum*) The mode of procedure in this operation is too familiar to require a description at my hands.

While I formerly operated by this method almost exclusively, yet have abandoned it entirely for the last two years, considering more modern operations far safer, more scientific, and far more rational. After having two bad cases of secondary hæmorrhage following its use, I never regarded it with the same degree of safety as other operations. Allingham says, "In my opinion, this operation has little to recommend it."

As regards danger to life—after all, the issue of the greatest moment—as far as my most careful researches have led me to a conclusion, it is quite six times as fatal as the ligature properly and dexterously applied. There are, moreover, these disadvantages: The burning causes very great pain after the operation, especially if the skin is involved; secondly, hœmorrhage is more likely to occur than after the best methods of operating, greater sloughing of the parts takes place, and a longer period is required for healing. The after results are likely to be unsatisfactory, for contraction is common, and, as with other burns, this is troublesome to overcome, for the scar-tissue, being of low vitality, is non-elastic, and very liable to ulceration.

The strongest claim made for the cautery in these cases was its power to control hæmorrhage, which seems to have been the great bug-a-boo in all rectal operations until recently, but it is the best means to that end. Experience has shown it to be inferior to the ligature, and those who have the courage of their convictions do not hesitate to cut and tie where heretofore they clamped and burnt. Why

have an open wound which, although possibly made antiseptic temporarily by the hot iron, in the next minute is as susceptible to infection—nay, more so—than a clean cut, one by reason of the necrotic tissue, which has resulted from the burning? I do not hesitate to say it has had its day, and that it served us well in its day, during a period of ignorance, when we were afraid to meet nature squarely.

In the February 6th number of the *British Medical Journal* for 1887, Mr. Walter Whitehead published an account of *his method* of operating for hæmorrhoids, which, as is well known, consists in making an incision with the scissors around the entire circumference of the anus, at the juncture of the skin and mucous membrane, dissecting the mucous membrane up beyond the hæmorrhoids, pulling it down, cutting it off, and stitching the free margin of the severed mucous membrane to the free margin of the skin below. At the same time he reported 200 successful operations for hæmorrhoids by this method. Mr. Whitehead's idea was to remove the entire pile-bearing membrane, which it certainly does, but is such a procedure entirely free from bad results? Let the results of the operation in the hands of other surgeons answer.

In a recent article, which appeared in the October, 1895, number of *Matthews' Medical Quarterly*, Dr. Edmund Andrews, of Chicago, has collected a series of 201 casualties that have resulted from this operation in the hands of eminent surgeons, both in Europe and America, and has further carefully classified and tabulated them. Of these there are four classes to which I wish to call special attention, being those that a careful review of the operation would naturally suggest as likely to follow. They are as follows:

"Loss of the special sense by which the patient should be warned of a coming evacuation, and unable to prepare for it, 8 cases; incontinence of flatus and fæces, 23 cases; failure of union of the wound by first intention, with retraction of the edges of the wound, forming a contracting tubular ulcer, with stricture, 9 cases; irritable and painful anus, 12 cases."

In explanation of the first two classes, we have but to examine the nervous mechanism of that portion of the mucous membrane of the rectum that is excised in this operation, as pointed out by Dr. Andrews in the same article. There are about eight small papillæ surrounding the rectum, just above the verge of the anus. Each one has an artery and a nerve, and under its base is a little ganglionic enlargement of the nerve. They are important tactile organs connected with the special rectal sense.

As these are all included in the field of this operation, it is evident that their removal should be followed by just such results as have been noted above. A review of the specially unfavorable conditions that attend all operations in this locality, on account of our inability to make it antiseptic, will furnish a satisfactory explanation for the last two classes of cases. In spite of the greatest care, all those who have done this operation many times know how frequently we fail to secure the *sine qua non* of this operation —union by first intention—and, as a result, reap just these classes of casualties, viz: ulceration, with stricture, followed by an irritable and painful anus.

After having performed the operation in a number of cases, I have no hesitation in expressing the following opinion:

That the class of cases to which it is claimed this operation is specially adapted, namely, a generally varicose condition of both the external and internal hæmorrhoidal vessels, can be met by a better method, as I will undertake to show in this paper, and that if done at all, it should be under the strictest aseptic precautions and by experienced hands. As an evidence that many others share with me in this opinion, I would again refer you to the article in *Matthews' Medical Quarterly*, in which he gives the written opinion of a dozen surgeons in Europe and America, who are adverse to this method. I would like to refer you here to what is known as the American operation, devised by Dr. Pratt, of Chicago, merely to reiterate what has already been published with regard to it, that there is not anything new or original in it, nothing more nor less than White

head's operation, with the slight variation of beginning the line of incision above, on the mucous surface, instead of below, at the white line of Hilton.

In the first volume of *Matthews' Medical Quarterly*, page 326, there appears a recommendation from Dr. Robt. Jones, of Liverpool, for "a simple method of treating the wound after excising hæmorrhoids," by cutting off the hæmorrhoid after being clamped by an ordinary pile clamp, an eighth of an inch above the clamps, and sewing up the cut edges with a continuous cat-gut suture; after which the clamp is removed, and the operation is complete. This is a step in the right direction, but as will occur to most operators, the one-eighth of an inch pedicle is scarcely sufficient to depend upon, when one is relying upon these sutures to control a possible hæmorrhage, nor would they be likely to hold sufficiently long for primary union to be complete. The publication of this method brought out an announcement from Dr. Ernest Gallart, of New York, in the second volume of the same *Quarterly*, page 518, that Dr. Outerbridge had abandoned the use of the ligature, clamps and cautery since 1888, and treated all his cases in a somewhat similar manner by excision, but without the clamp, uniting the raw surfaces by a continuous cat-gut suture, relying upon the suture to control all bleeding. This is certainly a most rational suggestion, the simplicity of which appeals to one directly—it did to me—and I adopted it forthwith. I soon found, however, that on account of the constant disposition of the adjoining folds of mucous membrane to turn in over the cut surface, I would frequently unite one of these, through mistake, with the opposing raw surfaces. The ease with which such a mistake is made, can scarcely be appreciated until it has been tried.

It occurred to me that if I could secure a clamp forceps that would hold the cut edges of the stump together, until the running suture had been applied the full length of the stump, which could then be drawn from between the suture, when the latter could be drawn taught and tied, we could then do an ideal operation for hæmorrhoids. I failed to find

one that would fill all these requirements, so devised the one that I now submit for your inspection.

You will please observe it has a serrated surface, near the superior edge, which is nearest the cut surfaces of the tissues. The object of this is to avoid slipping, at the same time to bring any undue pressure and consequent wounding of the tissue as near to the edge of the cut surface as possible. I am glad to be able to state, that the success of the venture has exceeded my expectations. I find I can do the operation in about half the time required for an Outerbridge operation. It is almost bloodless; the wound not being allowed to gap, is very much less liable to infection, and, consequently, primary union is very much more likely to result.

As an example, I will cite the case of a very delicate woman of 53 years of age, from whom I removed hæmorrhoids by the use of these forceps from the greater part of the circumference of the anus, on Saturday, November 25, 1895, and on the following Wednesday she went down stairs, and the following day for a ride.

In the October (1895) number of *Matthews' Medical Quarterly*, Dr. Merrill Rickets, of Cincinnati, Ohio, reports a simple method for operating for hæmorrhoids and prolapsus of the rectum, by ligating the varicose hæmorrhoidal vessels. This he recommends to be done by passing a semicircular needle, with a silk ligature, subcutaneously from the muco-cutaneous line to the upper part of the pile-bearing

area, and then returned to make its exit at the point of entrance. Dr. Rickets speaks very encouragely of the results of this procedure, and it suggests itself to me as being a very feasible and reasonable operation.

Art. XI.—Nephrorrhaphy—Clinical Notes.

By HUGH T. NELSON, M. D., of Charlottesville, Va.,

Lecturer on Surgery, University of Virginia; Ex-President Medical Examining Board of Virginia, etc.

The description of the operative treatment for movable or "floating kidney" being so inadequately given in text-books, the writer here details, for the benefit of those wishing to gain clearer insight into so important a surgical procedure, the operation as done by Dr. Edebohls at the New York Post-Graduate Hospital:

The patient, a woman of twenty-two, has been a sufferer for ten years, the intensity of the lumbo-abdominal pains being, at times, unendurable. She has been treated, without relief, by many physicians, and now consents to operation.

The diagnosis having been made, by palpation of the abdomen both kidneys are found in abnormal position; the *left* somewhat enlarged transversely and acutely sensitive; the *right* normal in size and shape, but supersensitive. Disease of the pelvic and thoracic viscera being absolutely excluded, after careful examination under anæsthesia, the conclusion is reached that the kidneys alone are responsible for her sufferings.

The patient, thoroughly prepared for aseptic operation, is brought in, and placed absolutely prone with a cylindrical rubber cushion—five inches in diameter—under the abdomen; the head and neck are raised above the level of the table by an appropriate support, so that although the abdomen is compressed, free motion of the ribs is provided for and thoracic breathing not interfered with.

The line of incision is along the outer edge of the erector spinæ muscle, extending from the lower border of the twelfth rib above, to the crest of the ilium below, deflecting somewhat outwardly to allow, in this case, greater length of incision and more room for manipulation of the organ. The

incision is rapidly deepened, the several layers of muscles cut through, the lumbar fascia incised to the full length of the cutaneous opening, and the few bleeding points secured by catgut ligature.

The only apprehensible danger now existent in this case, is that in operating on the left kidney an enlarged spleen may be wounded; or, in case of the right kidney, the lower border of the liver may and often does overlap the field of work.

Having cut through the lumbar fascia, the fatty capsule of the kidney with its aponeurotic envelope, is incised between two pairs of catch forceps, care being taken not to cut too low down, thus avoiding the wounding of the peritoneum or even a knuckle of intestine. This incision having been made nearly three inches long, and occupying the middle portion of the external convex border of the organ, and the peri renal fat, with its enveloped fascia stripped off on each side of the incision for about three-fourths of an inch, the patient is then dragged down by her feet towards the end of the table. As the cylindrical cushion rolls upwards towards the thorax, the weight of the body upon the cushion squeezes the kidney out of the wound, bringing it plainly into view, where it can be clearly seen and thoroughly examined. The operator now satisfies himself as to the condition of the kidney, incises the true capsule of the organ to the same extent as the fatty capsule and dissects it away for about half an inch on each side of the incision.

Observe, now, the kidney under consideration presents a raw surface along its external convex aspect nearly one inch wide by about two and a half inches long. This surface it is proposed to fasten to the raw edges of the incision in the lumbar muscles. Three chromicised catgut sutures are passed from within outward through fatty capsule, inverting capsule doubled on itself so as to have entire raw surface out, kidney parenchyma, inverting capsule and fatty capsule of other side—one near middle, other two about an inch above and below first, respectively.

The ends of these sutures are knotted together (to keep them from being pulled out), and are entrusted to an assistant. The edges of the wound, the protruded organ and all the surroundings are now freed from blood, and the patient pulled *up* on the table, the cylindrical cushion rolling back towards the pubic symphyses, and the kidney—almost spontaneously—slipping back into the abdomen. At this point,

the operator should be careful to ensure that portion of the organ which first protruded when the patient was pulled *down* to the *foot* of the table, being the *last* to get back.

Next, four or five chromicised catgut sutures are passed from within outward—through, first, the inner edge of the cut lumbar muscles; second, the outer edge of same, being entered upon the superficial edge so as to invaginate the raw surface. Two of these sutures are so passed as to occupy the intervals between the first set of sutures. Four or five strands of silkworm-gut, knotted together at the ends, are laid down upon the raw surface of the kidney—at the bottom of the incision underneath the muscle sutures—thus ensuring, when the operation is completed, the prevalence of an increased irritation, and assisting the plastic adhesive process whereby it is sought to cause the kidney to be fastened in its bed.

The kidney being again within the abdominal cavity, the knots in the first set of sutures are untied or cut off; the ends are threaded on a needle and passed through the muscles on their respective sides. Next, the second set of sutures are drawn tightly and tied in such a manner as to invert the raw edges of the muscle against which the abridged surface of the kidney is to be approximated.

Just here is the most delicate step of the operation—namely, the tying of the first set of sutures. This tying has to be done in such a way as to approximate the "rawed" surfaces of the kidney and muscles, and not to cut through the brittle parenchymatous structure of the organ. There is no guide to the correct taking of this step—only one's own touch. "Just take up the slack," and tie the knot single at first and double second. Too much traction would cause the stitches to cut out, and one would only add the condition of a fractured kidney to that existent prior to the operation.

Lastly, close the wound with a continuous catgut suture through the skin only, dress with aseptic gauze held in place by strips of adhesive plaster, and apply a binder over all.

Should nerves or vessels cross the field of operation, the vessels must be ligated on each side of a cut to be made; the nerve must simply be cut, it cannot be sawed.

No danger of lumbar hernia is to be apprehended. Sometimes there is very severe hæmorrhage, but this can always be controlled. The patient must be on his or her back after the completion of the operation. The dressings are to be changed and the drain removed in one week.

ART. XII —Two Cases of Suicidal Poisoning.—(I) Carbolic Acid. (II) Strychnia Sulphate

By JOHN W. SCOTT, M. D., of Gordonsville, Va.

CASE 1.—*Carbolic Acid.*—Female, aged 35 years. While laboring under a returning attack of mental aberration, swallowed three fluid drachms of pure carbolic acid. The almost immediate effect was unconsciousness, and when first seen—between 25 and 30 minutes after the ingestion—the sufferer was in a condition of coma, with entire absence of reflex irritability; the pupils were contracted; the respiration slow (2 to 3 to the minute), deep and stertorous; the radial pulse barely perceptible, as was also the heart action; the skin clammy; the lips and hands livid, and the whole aspect that of great prostration.

Before a rapid examination could be made, there was a cessation of stertor, with a continuance of the other symptoms. In short, there was extreme collapse.

The only indication seemed to be to counteract the depressing influence of the poison, and gr. $\frac{1}{50}$th of nitroglycerine was given hypodermically every one-half hour, and the interim consumed by the use of hypodermic brandy, given as rapidly as it could be administered.

At the expiration of one and one-half hours, there were indications of re-action, which were soon followed by a deep and full inspiration, succeeded by copious vomitings, and *now*, for the first time, the odor of carbolic acid was noticeable.

On regaining consciousness, the patient was cross, and querulous, and complained of burning pain and soreness in the throat and fauces.

The vomited matter consisted only of the remains of a partly digested hearty breakfast, strongly impregnated with the odor of the poison.

Smokey urine was voided shortly after consciousness came. This excretion, when next passed, was smokey black; remained so for twenty-four hours, and gradually became normal.

The alvine discharges were natural throughout.

So soon as it could be swallowed, cold milk was given, which was twice rejected partially coagulated.

For the ensuing four or five days, the diet was restricted to milk.

Melted vaseline—in tablespoonful doses—was given every three hours for the first twelve hours, and every four hours during the succeeding few days.

The characteristically rapid effect of a toxic dose, the recovery from the condition of extreme collapse, and the *absence* of carbolic acid odor, or the mouth lesions *before* vomiting, are interesting. More especially interesting is the absence of odor and of the whitened, toughened and corrugated appearance of the throat and fauces and mouth—previous to emesis, which were all well brought out afterwards, and also the absence of subsequent gastric disturbances.

Case 2.—*Strychnia Sulphate.*—Hysterical female, aged 55 years, was taking, by prescription, gr. $\frac{1}{20}$th triturate of strychnine sulphate every four hours, and supposing death from the drug, as she said, would be painless, took, as her second forenoon dose, gr. $\frac{4}{20}$th. This seemingly having no effect, at the same hour the following day she took gr. $\frac{6}{20}$th with the effect of only producing a slight twitching of the forearm flexors. On the third day, at the same hour, gr. $\frac{7}{20}$th was taken, after having taken the gr. $\frac{1}{20}$th at the regular intervals of four hours.

When seen, one half hour after this, the fright and pleadings were pitiable. There was a sense of impending suffocation, the eyeballs protruding, the lower jaws were rigid, the angles of the mouth drawn, contraction of the neck muscles and of the flexors of the forearm, and all the muscles of the lower extremities, were rigid. Each symptom was aggravated by a breath of air or a noise.

The stomach was emptied of its contents in ten minutes by gr. $\frac{1}{16}$th of apomorphine muriate, and, so soon as possible, two fluid drachms of bromidia were given by the mouth, which quieted the spasm, and in two hours the patient was asleep.

From recorded cases, the lethal dose of strychnine covers a wide range—from gr. $\frac{1}{4}$th to 20 grains—but there is every reason to suppose, judging from the alarming symptoms presented, that this dose of gr. $\frac{7}{20}$th would have been, in the absence of prompt treatment, fatal.

Proceedings of Societies, Boards, etc.

VIRGINIA STATE VETERINARY MEDICAL ASSOCIATION.

The Virginia State Veterinary Medical Association held its Semi-Annual Meeting in the Veterinary Hospital of Dr. W. H. Harbaugh, on south Adams street, Richmond, Va., January 2, 1896, with the President, W. H. Harbaugh, in the chair, and Secretary Dr. Geo. C. Faville at his post

There was a fair attendance of veterinarians from different parts of the State, and business of much importance to the profession was transacted.

A bill to establish a State Board of Veterinary Examiners to regulate the practice of veterinary medicine and surgery was formulated, and is now being considered by the Legislature.

[The medical profession, the dentists and the pharmacists, have laws to regulate and protect their respective professions, while the veterinarians have no protection whatever. In all States, North and West of us, stringent laws are in force regarding veterinary practice, and, as a consequence, our State is becoming a haven for the irregular pretenders who cannot get a foothold elsewhere. It is to be hoped that the members of the professions who are now enjoying protection will use their influence in aid of the veterinarians.]

The *infectious diseases of animals* received much attention, and the necessity for laws to prevent the spread of such diseases was emphasized in a set of resolutions which were published in the daily papers.

An important fact brought out in the general discussion was the truly *alarming extent to which tuberculosis prevails in the dairy herds in this State*, as proven by the physical diagnoses, the tuberculin tests, and the *post-mortem* examinations made by different members of the Association. One of the herds in this State, examined by veterinarians from the U. S. Agricultural Department, showed a re-action of 71 per cent. to the tuberculin test. Surely 95 tuberculous cattle in a herd of 134 is sufficient proof to any reasonable person that our cities need expert veterinary dairy inspectors.

At 2 o'clock P. M., the Association attended a *surgical clinic* by Dr. Geo. Ben. Johnston and assistants in the Old

Dominion Hospital, after which the Association enjoyed a dinner, as guests of Dr. Johnston, in the Medical College of Virginia.

Dr. Johnston's clinic was highly instructive and thoroughly appreciated by the veterinarians, but the veterinarian can never hope to be able to carry out the principles and practice of *aseptic and antiseptic surgery* to the degree obtained on the human subject. The natural surroundings and conditions of the veterinary patients are such as to render complete asepsis impossible. The average veterinarian is a skillful operator, and his instruments are fully up to the advanced standard of the human surgeon; his apparatus for the administration of anæsthetics is satisfactory; all antiseptics are as much at his disposal as they are at the command of the human surgeon, but owing to the nature of his larger patients, he cannot secure asepsis or antisepsis, as is done by the human surgeon. But still it must not be thought that the veterinarian fails to secure his share of success as a result of his abilities as a surgeon. The writer (a veterinarian) has *opened the abdominal cavity* of over one hundred horses (*cryptorchids*) in succession, *without a fatal result, with no other aseptic or antiseptic precautions than clean hands, clean instruments, and a cleansing of the region of the external wound.* Many of these horses were thrown upon dung piles as the only available soft bed on which to place them to undergo the operation, and after the operation they were kept in ordinary stables with the same attention as the other horses got.

While the surgeon of the human family has all his well-known advantages, the veterinarian, on the other hand, has to depend, to a great extent, on different factors in each case. He is in constant danger of bodily injury from both his larger and smaller classes of patients; as a rule, his only assistant is an ignorant and timid groom or stable hand; the surroundings where he has to operate only occasionally afford facility to lay his instruments on a chair or box free from absolute filth, and for these reasons many veterinarians become rapid, if rough, but wonderfully skilled operators. *Some veterinarians castrate, trephine, fire, remove large tumors—in fact, operate on all parts of the horse, with the animal on his feet, with no other restraint than a twitch on the upper lip.*

But Dr. Johnston's lecture and demonstrations had their good effect, as it is safe to say that no veterinarian present failed to see where he could render his operations more hu-

mane and add to his chances of success by attention to every possible detail.

In *sanitary medicine and bacteriology*, the veterinary profession has representatives in the front ranks. In *pathology* the veterinarian is not behind; as a *diagnostician*, the skill of the competent and painstaking veterinarian is the admiration of the medical practitioner, and there is no reason why the veterinarian should not, in many respects, advance his surgical methods to a standard, as near as possible, to that practiced by the human surgeon.

At 5 o'clock P. M., the Association reconvened at the Veterinary Hospital.

Dr. George C. Faville, of Norfolk, read a paper on *Osteo-Paresis in Horses*, which was followed by a paper on *Bone-Softening* in the human being, by Dr. M. D. Hoge, Jr., Professor of Pathology, Urinology, etc., University College of Medicine, Richmond, Va.

These papers were followed by a spirited discussion, and many important and interesting points were brought out.

Dr. Harbaugh next read his *Report on Murrain*, or *Texas Cattle Fever*, which dealt mainly with the tick as the carrier of the protozoal micro-organism found in the red-blood corpuscles of affected cattle.

Dr. E. P. Niles, of Blacksburg, read a paper on *Immunity*.

The papers dealt with important *subjects, and were all demonstrated with pathological specimens*, both macroscopical and microscopical. Dr. Hoge's microscopical demonstration of bone, affected with osteo-paresis, was of particular interest, and ie especially deserving of mention.

At 9 P. M., the Association banquetted at Evenson's, and then returned to the Veterinary Hospital and resumed its session, which was continued until 2 o'clock A. M. on the morning of the 3rd.

Dr. Geo. Ben. Johnston was elected the first honorary member.

The annual meeting will be held at Norfolk on the 24th of next June.

Dr. Drake, of Leesburg; Dr. Gilchrist, of Norfolk; and Dr. Dixon, of Charlottesville, volunteered to read papers at the next meeting.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Meeting of December 9, 1895.

Dr. J. V. Carraher read a paper on—

Case of Carbuncle.

DISCUSSION.

Dr. Carr said we should make a distinction between facial carbuncle and malignant pustule and ordinary carbuncle. We do not know what facial carbuncle is. In malignant pustule, we find the anthrax bacillus in the general circulation. This bacillus is exceedingly resistant. Dogs eating infected meat are affected. The ordinary form of carbuncle may be produced by any of the pus-producing germs, usually the staphylococcus aureus, rarely streptococci are found. The predisposing causes of ordinary carbuncle are any lowering of the nutrition of the body. The germ may enter the circulation through the sound skin when very virulent, but usually there is some abrasion. Cited the case of the experimenter who smeared staphylococcus aureus upon the unbroken skin of the arm where carbuncle followed this experiment. Carbuncles are common in diabetes mellitus. The most recent work upon surgery—Dennis—does not recommend opening carbuncle. Personally, he opens them under an anæsthetic and curettes—does not think delay is justifiable.

Dr. L. Eliot said he had seen carbuncles from the size of a hickory nut to one covering the entire back. They may sometimes be aborted by injecting about them a ten per cent. solution of carbolic acid; spraying for 15 or 20 minutes with a 5 per cent. solution, or by compresses saturated with a 5 per cent. solution. Lead and iodoform ointment are useful. Crocker uses a glycerite of belladonna and resin ointment; when the carbuncle breaks, washes out with carbolized solution and packs with iodoform; then applies a moist dressing. Believes in free incision and scraping the base, or dissects out the carbuncle. They bleed freely, but the bleeding will check itself. This was the treatment advocated by Triplett in the Medical Society of the District of Columbia twenty years ago. After removal, uses boracic acid dressing. Does not like the covering with plaster having a central hole.

Dr. Stone referred to a case seen with Dr. McWilliams,

where the carbuncle extended from shoulder to shoulder, and to near the waist. This patient died after an illness of two weeks. He would incise where there was suppuration.

Dr. Vincent spoke of his own case, and of the intensity of the pain. Bicarbonate of soda had been used internally, and also sulphide of calcium, with great relief; incisions were also made.

Dr. Magruder referred to the case of a young man who had twenty-six boils. He had successfully treated him with sulphide of calcium, in doses of one-tenth of a grain, repeated. He now preferred the sulphide of arsenic.

Dr. Carraher said he had nothing to add.

Dr. Walsh read a paper.

Some Common Diseases Observed North of the Arctic Circle.

[See page 1109.]

DISCUSSION.

Dr. F. S Nash said he had twice been in the Arctic Region, once on the Greeley Relief Expedition, and then on the North Alaska Exploration. Greeley had a man frost-bitten, the phalanx dropped off, not a particle of pus formed. Scurvy is almost unknown; the natives do not eat salt as such, but get it in their food. One he saw was supposed to be due to the man's intemperate habits The Danish Government exercises a patronage. Syphilis is common, especially on the Behring sea coast The Eskimos are filthy, they do not bathe. During menstruation the women just wipe their legs with grass. Labor is easy with them. He related the case of a woman accompanying their party who, when about to be confined, was left behind, but much to their surprise she walked into camp the same evening with her baby strapped over her back. Conjunctivitis, bronchitis, and syphilis are very common. No one is ever frozen if they are properly fed They are very particular about keeping the feet dry. He had never seen snow tried as a remedy for frost-bite. The Eskimo inspires through the mouth and expires through the nose. Constipation is common, due principally to laziness. He saw one case of malaria, but that had been carried there. They seem to be indifferent to pain.

Dr. E. L. Morgan said the word Eskimo means eaters of raw meat. They are not a people of such small statue as is generally supposed. Those living in Greenland, as a rule, do not represent a pure race, owing to an admixture of Eu-

ropean blood. At one time within the Columbian era they resided as far south as the St. Lawrence River, and were driven north by the Indians. The Eskimos fought the red men, displaying great courage. The people marry young, and often practice polygamy, and polygamy they believe in the world to come. On a baby's grave they lay a dog's head, for the soul of the dog can find its way anywhere and will direct the child in the next world. Mothers sometimes clean their babies by licking them with their tongues. It is considered a kindness to bury a live infant with its dead mother. Sickly aged persons are buried alive on the same ground. Some state scrofula is a very common disease with them. Others do not mention it all. He thought eye troubles would be common among them, as among the Indians of Washington. Had been informed that previous to the advent of the whites salt was not used by the Nez Perces Indians, as is the same case among the Eskimos to-day. He spoke at length of the people, their origin, customs, religious beliefs, superstitions, and burial rites.

Book Notices.

Hand-Book of the Diagnosis and Treatment of Skin Diseases. By ARTHUR VAN HARLINGEN, Ph. B., M. D., Emeritus Professor of Dermatology in Philadelphia Polyclinic, etc. *Third Edition. Enlarged and Revised. With 60 Illustrations, several of which are in Colors.* Philadelphia: P. Blakiston, Son & Co. 1895. Small 8vo. Pp. 577. Cloth, $2.75. (For sale by J. W. Randolph & Co., Richmond.)

The popularity of this book is shown by the early demand for the third edition. It is remarkable in avoiding quotations from standard text-books—thus supplementing, rather than duplicating them. The diseases are arranged alphabetically—like a dictionary. It does not seem to us that such an arrangement helps the student, nor can it help the practitioner who recognizes a disorder of certain glands, but does not know to what letter of the alphabetical arrangement to turn in order to get the proper name for the disorder present. Even the *classification*, on page 21, renders no help, as none of the diseases coming under this head are named. But when a name is found for a disease, the description given of it is admirable. In fact, when the disease is named, the tables or items of differential diagnosis are first-rate, and the details as to treatment give to the book a special value.

History of Anæsthesia; or, Painless Surgery. By WM. R. HAYDEN, M. D. Published by International Journal of Surgery Co., New York. 12mo. Pp. 51. Paper. Price, 25 cents.

Whether Dr. Hayden be correct or not in his deductions in favor of Dr. Morton as the discoverer of surgical anæsthesia, his too partial account of the early history of the subject is very readable. There can be no question that Dr. Long was the first to use ether as an anæsthetic for surgical purposes; that he made no concealment of the facts in the case; that it was public property, so far as his section was concerned; that time and again he talked about the anæsthetic value of ether to surgery, and that he led others to use it. He had no hospital with an audience of distinguished professors to whom to tell his discovery; but he did tell, and did demonstrate before such audience as was possible for him to have in his backwoods home, and thus did publish for the benefit of mankind that surgical anæsthesia could be produced by ether. Whether or not the facts were known at the time to the surgeons in charge of the Massachusetts Hospital, amount to but little in deciding the question as to the proper claimant of discovery. It may be that Dr. Morton had a more enthusiastic gathering to witness his first demonstrations, and that he first used printer's ink so as to reach the crowd. But Dr. Morton certainly had no higher aim than Dr. Long in alleviating the sufferings of his patient; nor did he know any better than Dr. Long that ether was a surgical anæsthetic. He did not use it as early as Dr. Long as such. He did not have witnesses to his painless operation as early as Dr. Long. Dr. Morton's community was not aware of the surgical anæsthetic property of ether as early as was that about Dr. Long. Dr. Hayden's claims for Dr. Morton, therefore, rest simply on the larger attendance on his demonstration, and on the more ready opportunities for Dr. Morton to get into metropolitan print. So that we are forced to concede that to Dr. Long belongs the distinction of discovery, and of primary use of ether as a surgical anæsthetic; and that the monument erected by the Legislature of Georgia years ago in their Capitol building to the memory of Dr. Crawford W. Long as the discoverer of surgical anæsthesia by ether, should ever remain. If it be necessary to do so, leave to Dr. Morton the credit of an independent discovery, and it may be that he was altogether as ignorant of what Dr. Long had done as was Dr. Long of what Dr. Morton was doing. But certainly Dr. Long stands out as the discoverer and first user of ether as a surgical anæsthetic.

Principles of Surgery. By N. SENN, M. D., Ph. D., LL. D., Professor of Practice of Surgery and Clinical Surgery in Rush Medical College, Chicago; Professor of Surgery in the Chicago Polyclinic; ex-President American Surgical Association, etc., etc. *Second Edition. Thoroughly Revised. Illustrated with 178 Wood Engravings and Five Colored Plates.* Royal Octavo. Pp. xvi.–656. Extra Cloth, $4.50 net; Sheep, or Half-Russia, $5.50 net. Philadelphia: The F. A. Davis Co., Publishers, 1914 and 1916 Cherry Street. 1895.

The eminence of the author, the thoroughness of all work he undertakes, his achievements as a surgeon, pathologist and teacher, give demand at once for all of his publications. Most colleges that have a chair on the "Principles of Surgery" adopted the first edition as either a text or consultation work; while progressive surgeons throughout this country have made it their book of study or of reference. As compared with the former edition, we find in the present edition a great deal of new material—including the introduction of new subjects—while the revision of the former text seems to have been quite complete. More than fifty new illustrations have been added in the present edition The work as now issued reflects credit upon both author and publishers, and the announcement that it is ready will, no doubt, lead to its rapid sale. The latest demonstrations with reference to serum-therapy, antitoxins, etc., are clearly stated, and the values of such therapy are given, including modes of administration, etc. It is an excellent book for student, surgeon, or general practitioner.

Lectures on Appendicitis and Notes on Other Subjects By ROBERT T. MORRIS, A. M., M. D., Fellow New Academy of Medicine, etc. *With Illustrations by Henry McDonald, M. D.* G. P. Putnam's Sons, New York. 1895. 8vo. Pp. 163. Cloth, $2. (For Sale by J. Randolph Co., Richmond.)

About 83 pages are given to appendicitis, summarizing reports of 100 cases in which the author has operated—mostly with his famous "inch-and-a-half incisions." The work is beautifully illustrated by drawings. Other subjects treated of are, *Gall-Stone Solvents, A Last Resort Hernia Operation, Why Patients Recover from Tuberculosis of the Peritoneum, Another Method for Palpation of the Kidneys, Addition to McGuire's Operation for a Supra-Pubic Urethra,* and a number of other papers. Several of the papers are scarcely more than paragraphs. Every page is interesting, and the book would be in great demand were it not for the collection of too many irrelevant papers that bear no relation one to another in one volume. The book is handsomely published, and the contents are of very great value to surgeons, physicians, etc.

American Text-Book of Obstetrics. RICHARD C. NORRIS, M. D., *Editor;* ROBERT L. DICKINSON, M. D., *Art Editor. With nearly 900 Colored and Half-Tone Illustrations.* Philadelphia: W. B. Saunders. 1895. Royal 8vo. Pp. 1009. Cloth, $7; Sheep, $8. (For sale by subscription only.)

We know of no work on obstetrics that equals the volume before us. Its typography, its paper, drawings, binding, etc., make it a book pleasing to look upon; and when we add to these the thoroughness of description, the excellent exactness of picture, the authoritativeness of the respective contributions, the systematic arrangement of the text, etc., our estimate of the publication reaches the highest degree of approval and recommendation. Indeed, it would be difficult to suggest an improvement of plan or execution. Nor do we know which part of the work to commend more than another. So excellent is all that the reader is apt to say that the chapter or the section under his eye is the best until he turns to another to find that equally as good. The doctor who gets this book will find it, in text and in drawings, the work he wants; and such are the developments of the science and art of obstetrics that it is not reasonable to suppose he will need another such volume for years to come, provided, of course, he keeps himself conversant with current journal literature.

Manual of the Practice of Medicine. By GEORGE ROE LOCKWOOD, M. D., Professor of Practice of Medicine, Woman's Medical College of New York Infirmary, etc. *With 75 Illustrations in the Text, and 22 Full Page Colored Plates.* Philadelphia: W. B. Saunders. 1896. Small 8vo. Pp. 935. Cloth, $2.50 net.

Monographs and encyclopædic works on Practice have become so general that we are glad to welcome a *Manual* which in reality gives a good survey of the field—good enough as a guide-book for the practitioner, and useful as a text-book for the college student. In the main, the author adopts the admirable classification of Osler, and in many respects, excels his guide-book in the clearness of description of signs and symptoms It is wonderful how much Dr. Lockwood has condensed into readable form all the important facts or statements made in the larger works, and brought the book well up to date. We are of opinion that most of the text-books on practice of the day could be made more useful by presenting a chapter or two on the *principles* of practice; and we trust the author of the present *Manual,* when called on to revise the present for a new edition, will introduce some sections which will help the student, who may use this as his text-book, in the direction indicated.

American Year-Book of Medicine and Surgery. 1896. *Collected and Arranged by Eminent American Specialists and Teachers, under the Editorial Charge of* GEORGE M. GOULD, M. D. *Profusely Illustrated with Numerous Wood Cuts in the Text and Thirty-three Handsome Half-Tone and Colored Plates.* Philadelphia: W. B. Saunders. 1896. Royal 8vo. Pp. 1183. Cloth, $6.50 net: Half Morocco, $7.50 net. (Sold only by subscription.)

We are glad to announce the issue of this excellent "digest of scientific progress and authoritative opinion in all branches of medicine and surgery, drawn from journals, monographs and text-books of the leading American and foreign authors and investigators." It is an epitomization of medical literature of the past year by persons competent to pronounce upon the value of a discovery or of a method of treatment. The review is synthetic and dogmatic, and includes only what is new. The title fully explains the scope of the work, and a triple column index, covering about 60 pages, shows how numerous must be the subjects discussed. The book is a great help to the practitioner—keeping well up with the advances made through the journals, etc., in each of the following departments: General Medicine, Surgery, Obstetrics, Gynæcology, Pediatrics, Nervous and Mental Diseases, Dermatology and Syphilis, Orthopædic Surgery, Ophthalmology, Otology, Diseases of the Nose and Larynx, Pathology and Bacteriology, Materia Medica, Experimental Therapeutics and Pharmacology, Anatomy, Physiology, and Hygiene, Medical Jurisprudence and Chemistry. It is a most valuable record of annual progress.

Miskel (a Novel.) By M. L. PHILLIPS, M.D., of Penn Yan, New York. (Advance copy of *No. 2 of the Doctor's Story Series*, to be issued March 1st.) In paper. Pp. 266. Price, 50 cents. Baily & Fairchild Co. New York. 1895.

This is a thrilling novel—perhaps overdrawn, but none the less readable and entertaining—to illustrate the power of mesmerism or hypnotism. The subject, Cromley, is kept under hypnotic influence for several consecutive years, during which he forsakes wife, robs a vault, etc., and is finally released by a medium on her dying bed, and restored to his wife again in soundness of mind and body. During the period of his hypnotism he becomes an obedient subject, and, when he is released, has no idea of what wrongs or crimes he has done while in the hypnotic state. Indictments against him in the courts are quashed, and he becomes the astute man of business as before. And now he and wife again walk together in holy love.

Hand-Atlas of Ophthalmology. *With an Introduction to the Use of the Ophthalmoscope,* By Dr. O. HAAB, Professor of Ophthalmology, University of Zurich. *Translated and Edited* by ERNEST CLARKE, M. D., B. S. (Lond.), F. R. C. S., Surgeon to Central London Ophthalmic Hospital, etc. New York: Wm. Wood & Co. 1895. Large 12mo. Cloth (For sale by subscription.)

The Publishers issue this as the first of a series of five hand "atlases" upon various branches of medical and surgical science, which, for accuracy, beauty and compactness, is believed to exceed anything heretofore produced. The plates, printed in colors, so far as the volume under notice is concerned, are scientifically faithful to nature. The introductory text of 55 pages explains the ophthalmoscope, the direct method of examination of a myopic eye, measurement of hypermetropia and astigmatism; it then tells of the size of the ophthalmoscopic image; how to examine the fundus by the indirect method; determination of inequalities in the fundus; the magnifying power with the direct and indirect method; the shadow test; the qualities of a good ophthalmoscope; the method of conducting examinations with it; and finally describes the ophthalmoscopic appearance of the normal fundus. Then follow 64 chromo-lithographic figures of different eye diseases, with appropriate descriptive text, and a condensed outline of the subject to which they are devoted on the respective facing pages. We know of no one work which takes its place in descriptive drawings of diseases of the eye; and the book is very cheap at the price named by the publishers for the *Series.* The four "atlases" to follow this refer to the nervous system; to fractures and dislocations; to obstetrics; and to gynæcology.

American Text-Book of Surgery for Practitioners and Students. *Edited* by WILLIAM W. KEEN, M. D., LL. D., and J. WILLIAM WHITE, M. D., Ph. D. *Second Edition, Carefully Revised.* Philadelphia: W. B. Saunders. 1895. Royal 8vo. Pp. 1248. Cloth, $7; Sheep, $8; Half Russia, $9. (*For sale by Publisher by subscription only.*)

The fact that the former edition, issued scarcely three years ago, has become adopted as the text-book in over sixty medical schools in this country, attests the appreciation teachers of surgery place upon its merits. The authors are well-selected and eminent teachers—although not one of them hails from the South, and only one from west of the Mississippi. Even in the discussion of suprapubic cystotomy or lithotomy, the name of Dr. Hunter McGuire, who really revived the operation, and who has performed it so many times as to make it the common operation of this section, is not so much as mentioned. But leaving aside the

misnomer of "American," except as the term may be applied to a small portion only of this Continent, we have in this work a "text-book of surgery *for practitioners* and students" that equals any such volume published in any language with which we are acquainted. This revised edition omits what is now to be considered obsolete, and presents the science and art of surgery as they actually stand at this day. So many additions, alterations, etc., have been introduced as to make this edition a necessity to any surgeon who wishes to keep up with the times, whether or not he has the former edition. The work is profusely illustrated by full-page plates and wood cuts. It is a work that the surgeon is compelled to consult for the standard operations and for the most approved doctrines of the period in surgery. It covers every department of surgery. It is well written, well edited, well published, and is cheap at the net prices given in the caption.

System of Surgery. By AMERICAN AUTHORS. *Edited* by FREDERIC S. DENNIS, M. D., Professor of the Principles and Practice of Surgery, Bellevue Hospital Medical College, New York, etc., *Assisted* by JOHN S. BILLINGS, M. D., LL. D., D. C. L., Deputy Surgeon-General U. S. A. To be completed in four imperial octavo volumes, containing about 900 pages each, with index. Profusely illustrated with figures in colors and in black. Volume III, 908 pages, 207 engravings, and 10 colored plates. Price per volume: $6 in Cloth; $7 in Leather; $8.50 in Half Morocco, gilt back and top. *For sale by subscription.* (Full Circular on application to the Publishers, Lea Brothers & Co., Philadelphia.)

This third volume of the great *System of Surgery*—to be completed on early issue of the fourth volume—deals with the surgical diseases and injuries of the larynx, tongue, jaws, teeth, salivary glands, chest, eye and ear, skin and genito-urinary system, and with syphilis. The contributors are eminent in their special departments—Drs. D. Bryson Delavan, H. H. Mudd, Charles B. Porter, Willard Parker, F. S. Dennis, Geo. E. deSchweinitz, H. D. Noyes, Gorman Bacon, L. McLane Tiffany, W. A. Hardaway, J. William White, and Robert W. Taylor. There can be no question as to the standard value of this *System*, which, for years to come, will be the work for the practitioner of surgery who wishes to get at the details of an operation. Such a *System* stands as a monument to the Editor and his corps of able writers. Illustrations are used in profusion, and each one is well drawn and clearly brings out the point described in the text. If the general practitioner can afford only one *System of Surgery*, we would especially call his favorable consideration to this great work, which helps him to diag-

nose and to treat surgical conditions. It is a practical exposition of the most advanced surgery of the day—constituting a complete encyclopædia of modern surgery.

Manual of Gynecology. By HENRY T. BYFORD, M. D., Professor of Gynecology and Clinical Gynecology, College of Physicians and Surgeons of Chicago, etc. *Containing 234 Illustrations*, many of which are original Philadelphia: P. Blakiston, Son & Co. 1895. Small 8vo. Pp. 488. Cloth, $2.50.

This is intended to *supply the student* with a manual complete enough for his College course. The *essentials* which he should master are printed in large type; the *amplification* in small type. The idea is a good one; for it is becoming impossible for the College student to wade through the large text-books that are given him in most of the Colleges. The time is coming—is near at hand—when every professor will see it to the interest of his class to adopt text-books that state the *essentials* in such a way as to impress them upon the minds of his students—leaving the "amplification" to remain for post-graduate reading and study. An examination of some important chapters shows that Dr. Byford has well carried out his plan, and presents a *text-book* that should be adopted generally. It is a valuable book also to the Professor as a guide for his lectures. We hope teachers of gynecology will take the trouble to examine this book with reference to adoption—using the larger volumes for reference books.

Editorial.

Medical Examining Board of Virginia—Change of Time of Meeting—Important Notice.

The Executive Committee of the Medical Examining Board of Virginia authorizes the announcement of the change of time of the *first* semi-annual session of the Board from May to June 9th, 10th, and 11th, 1896. The Board will hold a meeting for the transaction of business at 8 P. M., Tuesday, June 9th, and *the examination of applicants for license to practice medicine, etc., in Virginia, will begin promptly at 9 A. M., Wednesday, June 10th.* For details, see the advertisement on advertising page 53.

VIRGINIA
MEDICAL MONTHLY.

VOLUME XXII—No. 12. WHOLE NUMBER, 264.

RICHMOND, MARCH, 1896.

Original Communications.

Art. I.—Hysteria in Children.*

By J. N. UPSHUR, M. D., of Richmond, Va.,

Professor of Practice in the Medical College of Virginia; First Vice-President of the Richmond Academy of Medicine and Surgery; Honorary Fellow of the Medical Society of the State of West Virginia, etc.

In calling your attention to-night to the existence of hysteria in children, I am prompted to the duty by the conviction that it is an affection which is considered rare, and which is so considered because its manifestations are overlooked or not generally appreciated. The idea that hysteria is simply an affection of nervous women—a condition usually of little gravity, and one which has conspicuously, as a factor, semi-volition, has found lodgment in our minds in the early years of our professional life.

I am persuaded that we are in error; many of the nervous phenomena in children, which we find it difficult to relieve, are so because we do not clearly define the conditions under which they exist.

*Read before Richmond Academy of Medicine and Surgery, January 28th, 1896.

In adult life, females are the most common subjects of hysteria—this is also true with children.

The symptoms are capricious, mental, and sensory in character. Phenomena are as various as the phenomena of the cerebro-spinal and sympathetic nervous system. In the adult, there is the element of motive to mislead—semi-volitional in character—present; in children, these symptoms are modified—motive usually absent. Hysteria may be defined, in children as in adults, "to be a functional nervous disease, characterized by special symptoms, any or all of which are related in varying degree to abnormal psychical conditions" It is only necessary that the mental condition of the child shall be developed sufficiently to appreciate good or evil, as affected by its environment. We are told that it has been observed in very early childhood. Gillette* reported a case of hysterical paralysis in a girl 18 months old.

Before puberty, the disease is abortive, as compared with the manifestations in the adult. The symptoms are not so wide in range, but phenomena of a grave character are observed, as severe spasm, amblyopia, paresis, etc. Children are more emotional than adults, the emotions less under control, and I doubt not many of the conditions considered as temper, screaming fits, wind colic, etc., are really hysterical phenomena. Headache, referred to eye-strain, pains in joints and limbs, symptoms simulating heart involvement or pleurodynia, are clearly hysterical, if we only remember it may develop in early life, at least prior to puberty.

Etiology.—The causes are predisposing and exciting. Heredity, alcoholism in father, exhaustion from any cause, anæmia during convalescence from acute disease, trauma, very trifling accidents, over-indulgence as in case of the only child, improper educational methods, climate, the evil effect of example in parents of neurotic temperament predisposed to other nervous diseases—in fine, any cause which, in any way, tends to lower the stamina of the child. Children of

* *N. Y. Medical Journal and Obstetric Review.* 1882. Vol. XXVI. P. 66.

sturdy, healthy parents resist hysterical and other neurotic tendencies. Good hygienic surroundings—nursery, food, clothing, sunshine, fresh air—all tending to the upbuilding of sturdy health, are antagonistic to the development of hysteria.

Too little attention is paid to the construction of our school-rooms as to heating and ventilation; too much strain put indiscriminately on children in the way in which they are crowded with studies, and too little care to prevent the nerve-tension of examination-time. These conditions should be corrected, that the young may develop into a sturdier adult life.

The conditions of social life are at fault; children are not kept back in the nursery as they should be; they are not made in youth to bear the yoke; we do not see now the rollicking old-fashioned child, who is seen, but not heard. The modern child is precocious and pert. The nervous system to-day does not have thrown around it the conserving influences of a generation or two back. Bad influence on their health through ruin of digestion, from too much sweets and other improper articles of food, irregular hours of eating and sleeping, are destructive of health, especially in the direction of the nervous system.

Various conditions of the sexual system may predispose and excite hysteria. Care as to cleanliness, reflex irritation in boys from an abnormally long prepuce, conditions developing the habit of masturbation (more common in boys than we imagine); leucorrhœa in girls, resulting from thread worms or acrid urine, etc., may be causative factors; also bad association, acting through the mind, from impure conversation among older children. Mimicry may be a cause. An outbreak is recounted as having occurred in Pennsylvania—patients being all boys. Its manifestations were "kicking, striking, running, damaging furniture, calling everything by the same name." Many interesting reports in this direction are recorded.

We are all familiar with the tearful, nervous conditions of convalescence in childhood, and how frequently nervous

terror is excited in the minds of these little ones by threats made by silly parents or guardians of what the doctor will do to them.

Traumatism is a frequent cause. A little boy under my care for the treatment of a sore foot, had a paroxysm of weeping and nervous terror on each occasion when the foot was dressed, though satisfied I would not hurt him.

Sometimes hysteria develops secondarily by an injury. A little patient of mine had a fall, injuring the right knee. She was kept quiet, and under appropriate treatment made a good recovery. A year afterwards, complained of pain in same knee and inability to walk. Careful examination failed to elicit any other symptom. The application of a mild galvanic current effected a complete cure. This same patient had previously complained of persistent *headache*, which failed to respond to any treatment. A day spent from home, or any strong mental diversion, relieved her. Cases similar to this may occur in the spine.

Pathology.—Careful investigation has developed no marked changes characteristic of hysteria unassociated with those of other affections with which it may be associated. If changes exist, they are temporary—may be in any portion of the cerebro-spinal axis, but most commonly they are cerebral—both dynamic and vascular, explainable upon the influence of the psychical element. The phenomena of hysteria must be received as facts, not as simulations, as, for example, pain—hyperæsthetic or anæsthetic areas, contractures, etc.; the volitional element may exaggerate these facts. "Blocq (quoted by Mills, *Cyclopæd. Diseases Children*), has thus put the matter: The explanation of many hysterical phenomena in children is to be found in the imperfect development of the cerebral centres; the inhibitory action of the cortex on the lower centres is then at a minimum; the child's nervous system then expands more readily to impressions."

Symptoms.—These may be *psychical, sensory, motor.* The sensory may include perversions of the special senses—vasomotor, secretory, and miscellaneous—namely, vomiting,

phantom tumors, mimicry of acute diseases. These symptoms may be induced artificially, involuntarily, simulated—the impulse being irresistible; but in children, these symptoms are much more apt to be either involuntary or well marked cases of deception. The undeveloped nervous system of the child renders it incapable of long sustained psychical condition as in the adult. The motor phenomena are manifested in convulsions, conditions of local spasm, as chorea, tremor, or some form of paresis, twitchings of the face, spasm of the glottis, contracture, associated with nervous joint; simulated disease of the spine; slight ataxic conditions. Of the sensory manifestations, hyperæsthesia is common—may be local or general; headache, coxalgia; anæsthesia not so common; blindness and deafness, unilateral; hysterical vomiting, hiccough. A form of hysterical insanity is observed in children manifested by striking, biting, a disposition to be destructive, by evidences of the perversion of wits, as various boisterous means of attracting attention, etc. Manifestation of moral obliquity for which the child is blamed and punished, is a diseased condition, and should be treated as such. Mimicry of animals is a striking feature. So I might go on, did time allow, to discuss hystero-epilepsy, hystero-catalepsy, ecstasy, trance, and kindred affections. Mills relates many illustrative cases of these forms of hysteria.*

Almost any form or grouping of nervous symptoms may be observed—cough, stammering, pain, etc.; weak back, hysterical joint described by Jacobi; night terrors, somnambulism, rapid respiration, irregular respiration, interference with respiration, nocturnal incontinence of urine. There may, too, be some febrile excitement in these cases. The following is illustrative:

Child eight years old, nervous temperament, fair hair and blue eyes; I have frequently attended her with acute attacks of vomiting, intractable to remedies, finally suddenly subsiding. Was called to see her about 22d December. She is an only child. She was suffering with slight tonsillitis and earache; slight fever; in a day or two complained

* *Cyclopædia Dis. Children*, Kealing, fourth Vol.

of pain in left side—mammary region; declared she could not get her breath; then of pain in back; choking sensations; *face placid*, vomiting distressing, positive assurance that she was not going to loose her breath relieved this symptom, and gentle rubbing by her mother quieted the pain in side and back and put her to sleep before the prescription could be filled. These symptoms were several times repeated. In about ten days she made a good recovery.

Diagnosis.—Not more difficult than in adults, but more apt to be overlooked, because many men forget the fact that hysterical manifestations may be observed in children; we have to differentiate it from many other nervous affections.

The intelligence and shrewdness of children should not be estimated too lightly. Great care should be exercised in examination of the case, and it should not be freely discussed, as it often is, in the presence of the child. We have to determine the association, or non-association, of organic disease with the hysteria. It masks or simulates many affections, being a secondary development in various existing nervous troubles. A marked fact in these imitations is they are never perfect. Some essential symptom of the disease imitated is lacking. Marked imbecility and idiocy may at first be regarded as hysterical, but close observation will soon determine the nature of the affection. It is sometimes almost impossible to differentiate between epilepsy and hysteria. We are impressed with the near relationship between these diseases, and careful analysis of both will be necessary to enable us to reach a conclusion. Henoch (quoted by Mills, *Cyclopedia Dis. of Children*, pp. 997, vol. 4) discusses a case in which he says seizures of epilepsy and hysteria alternate, and that the tendency of these cases is to terminate in true epilepsy; especially is this true when the epileptic tendency is hereditary.

Nocturnal attacks prove epilepsy, but not necessarily. Roberts relates the case of a boy who slept with his mother. The attacks invariably occurred early at night or in the morning, never when sleep was most profound. He had "irregular twitchings of the arm, and blinking of the eye-

lids, which developed into general convulsive fits of short duration. He never bit his tongue, or foamed at the mouth, and the question of unconsciousness was doubtful. During the day he had many hysterical seizures." He attributed the attacks to the fact that the boy slept with his mother. He made a good recovery.

A thorough knowledge of the phenomena of epilepsy will enable us to correctly differentiate it from hysteria.

In the various forms of paresis, we may find the child has the power of voluntary motion by making her lie down when she complains that she can not stand, or by distracting the attention in some way from the existing condition, or by the application of Faradism. Then, too, when the paresis is genuine, it has marks of its organic origin, and so I might go on analyzing the numerous troubles hysteria may and does simulate, did time allow.

In spasm or contraction of muscles under chloroform or natural sleep, it disappears. When organic, this is not the case. This fact also applies, with some modification, in simulated disease of the spine.

Prognosis is, as a rule, good, but we may have relapse. The knowledge of this fact has an important bearing on the future management of the physical and mental training of the child.

Treatment.—The *preventive treatment* is to be followed in all cases where the knowledge of the family physician makes him cognizant of the nervous temperament in the parents, intemperate habits in the father, existence of nervous affections in other members of the family, such as chorea. The hygiene of the nursery should be as perfect as possible; steady, gentle discipline enforced, the child not being allowed to be freakish, or give way to tempers. Nutritious, wholesome food, regular hours of sleep and exercise should be required, and guard the child absolutely from all undue excitement.

The curative treatment, embraces all measures for improving the general health. But these cases must not be subjected to routine treatment, but each case studied and treat-

ed on its individual requirements. Iron, arsenic, the hypophosphites, cod liver oil, nervines, valerian, asafœtida, sedatives, like the bromides, are all valuable, but must be carefully adapted to the requirements of each individual case. The bowels must be regulated, and the digestion made as nearly normal as possible by a suitable diet. Massage is useful, and carefully conducted gymnastics will be of decided benefit. In the graver cases, isolation from home influences is beneficial. The child should not be allowed to have its own way, but subjected to a discipline firm but kind. If convulsive seizures occur, resort may be had to the cold douche, chloroform, ether, nitrite of amyl, etc.

I have endeavored to give you the condensed results of my study and observation. I trust you may find the subject sufficiently interesting and practical to further elaborate it.

210 *West Grace Street.*

Art II.—A Few Curious Observations Concerning Small-Pox Patients.*

By LLEWELLYN ELIOT, M. D., of Washington, D. C.

From a more or less intimate association with small-pox during the last fifteen or sixteen years, I have been enabled to make a few curious observations upon the disease; and while the observations may be of interest as curiosities, they hardly deserve to be dignified into a medical paper.

It is useless to say that small-pox is one of the most contagious and infectious diseases with which we have to deal; but it may be of interest to know that while the infection may be carried in the air, the breath, the exhalations, the clothing of those associated with the sick, as well as by the wind, to long distances, many instances occur, and I have seen several, where intimate association by unprotected in-

* Read before the Medical Society of the District of Columbia, Jan'y 29th, 1896.

dividuals with those sick of the disease fails to infect. One well person sleeps in the same bed with a sick one and does not become infected, while another passes a social evening with one who has been exposed, but who resists the infection, and is taken down with the disease, showing that there is a peculiar insusceptibility to the disease on the part of some persons, while there is an equal susceptibility on the part of others.

The contagion of small-pox is lasting. There is a want of truth in small-pox patients which is surprising, and during their sickness we must accept their statements "*cum grano salis.*" This trait, while it is unintentional, is embarrassing to the investigator.

There is a singular docility on the part of those patients who are hardened characters; they obey rules and endeavor to conduct themselves with propriety during their illness; in convalescence they assume more their natural character.

The first want of the patient—that is, as soon as he can open his eyes—is a looking-glass, that he may gaze on his loathsomeness.

The appetite of the convalescent is enormous. He wants his three full meals a day, and always wants the best the market can produce.

There is a peculiar smell in this disease, which oftentimes will aid in the diagnosis. I cannot describe it, nor is it always present.

A patient ill with small-pox is able to take a larger amount of whiskey than one in the general run of diseases without showing the intoxicating effects; an allowance, during the extreme of the disease, of sixteen ounces during the twenty-four hours, is not too much; so, when whiskey is given, it should be given with a free hand.

Morphia, to have any appreciable effect, must be given in half-grain doses; but should lung complication exist, it is best not to use it in any dose. This dose of half a grain applies to the stage of illness, and not during the convalescence.

Sulphide of calcium, which I have used extensively in

this disease, must be given in large doses. I remember using it in 1879 for the first time, and the dose then was one-twelfth of a grain three times a day; but if it, at that time, exerted any curative, or even beneficial effect, I was never able to appreciate it. Having employed every treatment which had even the shadow of success, I adopted again, during the past outbreak, the calcium treatment, using doses of one, two, three or four grains every three hours, and continued until there was some effect upon the pustules, when the dose was decreased, but never to less than one grain, except in children.

There are certain omens about this class of patients, which, while they are not assured and invariable in their appearance, are of very grave prognostic import. I recall the following: When I have assisted in moving a patient to the hospital, I have always noticed that those who voluntarily covered their faces and heads, without any suggestion to do so, almost invariably died.

When the face of a white patient assumes a dark leaden hue during the first days, we may almost with certainty predict death.

I have noticed those patients, who showed great swelling of the face and head in the early days, always suffered severe attacks.

I have noticed a peculiarity of walk, that is very ominous—that is, the patient lifts the feet high, as if he were ascending stairs, or as we would find in morphinism; this applies to the early eruptive stage.

There is a peculiarity of glance—that is, the eyes are directed to the ground while the patient appears to be looking up, the whites of the eyes showing very prominently; there being either an over-action of the inferior rectus or an entire want of action of the superior rectus, sursubvergence.

I have noticed that every patient who escaped from the hospital or from home during the delirium of the disease, died in a few days. There are some peculiar things in regard to the escape of patients. Their main idea is to get home. I have never seen a sick patient take anything that

did not belong to him, when he effected his escape. They will select only such things as belong to them. If one has brought a blanket to the hospital, and that blanket is in sight on another bed, he will go and take it from that bed. If clothing is hanging on the walls or chairs, he will look over all and take none but his own. For a patient to do this, is equal to signing his death warrant.

A patient about to escape, will exhibit a degree of cunning that is marvelous.

Another peculiar feature I have observed, was the appearance of a secondary eruption, which rapidly ran its course of pustulation and dessication, after the convalescence had been established. I called attention to this peculiarity as far back as 1882, and mentioned one case where it occurred twice, and it was verified during the past outbreak by Dr. Nevitt and myself.

Always look for the eruption *first* upon the soft palate.

An observation I made during my last association with the disease is in connection with the temperature. There was a very marked difference between the lingual and the axillary reading in some cases in the early days of the disease. At each observation the thermometer was left in position for five minutes, and one observation was made immediately after the other. What is the cause of the difference, I am unable to say.

The following notes are introduced in explanation of the accompanying chart, giving the morning and evening temperature in five confluent cases that were under observation:

In the first case, there was at the first observation a plus difference of 1.4° for the tongue; the second observation showed a difference of .4° for the axilla; the third observation showed no difference; the fourth observation showed a plus difference of .1° for the axilla, and the fifth observation showed a plus difference of .1° for the tongue; the sixth, .4° for the tongue.

In the second case, there was at the first observation a plus difference of 4.6° for the tongue; the second observation, a plus difference of .8° for the tongue; the third observation, a plus difference of 2° for the tongue.

The third case showed at the first observation a plus difference of 2° for the tongue, while the sixth observation showed a plus difference of 3° for the tongue.

COMPARATIVE TEMPERATURE IN SMALL-POX—TONGUE AND AXILLA.

		E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	M.	E.	E.	M.	E.	
Case 1. W. G.	Tongue	104.6	103.6	104.	102.4	101.6	100.	.....	98.6	.....	.....	.....	.....	.....	.....	.....	.....	No further tongue observation on account of delirium. Died.
	Axilla	103.2	104.	104.	102.	102.6	99.6	98.4	99.	99.	99.6	99.	98.	.....	.....	.....	.....	
Case 2. M. W. W.	Tongue	102.6	100.4	101.6	.....	99.6	.....	99.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	
	Axilla	98.	99.6	99.6	.....	99.4	.....	99.4	.....	.....	.....	.....	.....	.....	.....	.....	.....	No further axillary observation, too sore to permit it.
Case 3. A. R. W.	Tongue	104.	103.	.....	101.2	.....	100.6	.....	98.6	.....	.....	101.8	.....	.....	.....	.....	.....	
	Axilla	102.	102.4	.....	101.2	.....	97.6	.....	99.4	.....	.....	.....	.....	.....	.....	.....	.....	No further axillary observation, too sore to permit it.
Case 4. M. W.	Tongue	102.6	104.8	104.4	102.6	.....	.....	99.6	.....	102.2	.....	102.6	.....	99.	100.6	100.6	101.	
	Axilla	101.	101.6	103.4	98.4	.....	.....	98.6	.....	99.4	.....	100.	.....	98.6	100.4	98.6	99.	No further axillary observation.
Case 5. M. K.	Tongue	104.	99.4	100.	98.2	99.	98.	99.4	98.6	99.	98.2	.....	.....	.....	.....	.....	.....	
	Axilla	99.	98.8	100.	98.2	97.6	98.	97.4	98.6	98.6	98.8	.....	.....	.....	.....	.....	.....	

The fourth case showed at the first observation a plus difference of 1.6° for the tongue; the second observation showed a plus difference of 3.2° for the tongue; the third observation showed a plus difference of 1° for the tongue; the fourth observation showed a plus difference of 4.2° for the tongue; the ninth observation, a plus difference of 2.8° for the tongue; the eleventh observation showed a plus difference of 2.6° for the tongue; the thirteenth observation, a plus difference for the tongue; the fifteenth observation, a plus difference of 2° for the tongue.

The fifth case showed at the first observation a plus difference of 5° for the tongue; the second observation, a plus difference of .6° for the tongue; the third and fourth observations showed no difference; the fifth observation showed a plus difference of 1.4° for the tongue; the sixth observation, no difference; the seventh observation, a plus difference of 2° for the tongue; the tenth observation showed a plus difference of .6° for the axilla.

The greatest difference was 5°, the excess being for the tongue, 104° —99°.

1106 *P Street, N. W.*

Art. IV.—Treatment of Suppurative Stage of Tubercular Osteitis of the Hip-Joint,*

By A. R. SHANDS, M. D., of Washington, D, C.,

Professor of Orthopædic Surgery in the Medical Department of Columbian University.

Gentlemen:—The case I present to you this afternoon possesses so many points of great interest, illustrative of the suppurative stage of hip disease, that I shall claim a sufficient amount of your time to give you the history of the case somewhat in detail, for I feel fully assured that you will be repaid, as it will serve well to impress upon your minds the didactic lecture that I so recently gave you at the College on this subject. This is a subject of great importance, and all the time that we can give to its study will be well spent in preparing you for your work in this line in the profession that you have chosen.

We should consider ourselves particularly fortunate to

* A Clinical Lecture delivered before the Graduating Class of the Columbian University, Medical Department, at Emergency Hospital, Washington, D. C., January 22d, 1896.

have such a case just at this time in our course, for it presents so many clinical features of interest—features that we do not often see except in these neglected cases that we come across in the lower walks of life.

This patient is 15 years old, and comes from a tubercular parentage; her history as to her present trouble dates back about 18 months. This girl was first seen by me about one year ago in the children's service of this hospital, at which time the mother related that about six months previously she noticed the child was a little lame, especially so early in the morning; later in the day lameness would wear off and child would get about with comfort. This state of things went on from bad to worse until locomotion unsupported was impossible.

I wish to call your attention especially to the pain and lameness being intermittent; this is a most important diagnostic sign in early stage of hip disease.

Mother gave usual history of pain in child's knee, night crier, etc. Could get no history of any treatment of the case before she came to the dispensary.

About February 1st, 1895, she was taken into the hospital in the service of Dr. Hawkes, and I am indebted to his courtesy for the privilege of treating her. Upon admission to the hospital, her hip was extremely acute and painful; there was marked induration of all of the soft parts about the hip, especially the posterior aspect, causing obliteration of the gluteal folds—in fact, obliteration of all of the normal depressions about the hip-joint. The reflex muscular spasm was so exaggerated that the limb was held perfectly rigid in about 15° or 20° of adduction, and the least attempt at passive motion would produce extreme pain.

This reflex muscular spasm, you will remember, I told you, is nature's effort to promote immobilization of the joint, and thereby relieve the pain. In this respect, see how plainly nature indicates to you what course of treatment you should adopt to relieve your patient of the pain that is such a prominent feature of this stage of these joint troubles. At that time, the pain and spasm could be overcome by gentle traction, and in this way the adduction deformity could be corrected. There was no sign of an abscess at that time, but general condition of the patient was poor.

The day after admission to the hospital the patient was anæsthetized, the adduction deformity corrected by gentle manual force, and the limb put up in a plaster-of-Paris spica, which was allowed to remain on for four weeks. On removing the same, the reflex muscular spasm had subsided, and there was present a fair amount of passive motion without pain.

I will repeat what I have already said, in my didactic lecture, about immobilization of an acute hip by means of plaster-of-Paris spica, that, when properly applied, I consider it by far the most perfect means of immobilizing the hip-joint. In doing this, you aid nature in her efforts to bring about a cure, for it puts the irritated muscles at rest and the reflexes to sleep.

As to the technique of applying the spica, I will show you presently in this case. Care should be taken that the spica should be made strong, and extend from the lower border of the axilla to the tips of the toes; two assistants are necessary to keep up counter-traction until the plaster is well set. If the dressings are snugly applied around all of the bony prominences—processes of the ilium, condyles of femur, malleoli and foot, you will obtain absolute fixation of all of the joints of the limb. The spica should be reinforced by incorporating light steel bars in the plaster. Have one bar to extend the whole length of the spica on the outer side, and a shorter one in front from the floating ribs to the knee.

In thus treating these acute hip cases, great care should always be taken not to use much force at first sitting. If all of the deformity cannot be overcome with gentle traction, then put the limb up in its somewhat improved position, allow it to remain in the spica for about two weeks. When it is then removed, the chances are that the spasm will have sufficiently subsided to allow the deformity to be entirely overcome. Then another spica should be applied, and allowed to remain on until you are ready to apply an ambulatory brace.

There is in the minds of some a fear that thus immobilizing a joint will produce a certain amount of ankylosis. I

I beg of you to discard any such idea from your minds if it exists. Ankylosis is produced by the products of inflammation, and not by fixation. Therefore, anything that will tend to check the inflammation will limit the ankylosis.

A few words in favor of the plaster spica over other methods of treating these acute hips. The plaster spica has a great advantage over weight and pulley in that the patient can be made by this means perfectly comfortable, and can be moved about without jar or pain; patient can be conveniently taken out of doors on a rolling chair—a kind of ambulatory bed. Weight and pulley have to be removed whenever child is taken from the bed. Then the spasm at once returns in full force, and there is a shriek of pain. The plaster spica has the advantage over the various posterior splints in that it never slips from its original position, and does not require constant care to keep it in order.

This patient was treated with an iron mixture; also put on cod-liver oil and guaiacal emulsion—two teaspoonfuls t. i. d. Under this treatment, the patient's general condition improved wonderfully. At end of fifth week she was sent home, and instructed to report at the dispensary once a week. I kept track of her for about two months, during which time she improved so much that the mother evidently came to the conclusion that she was cured; so stopped bringing her to the dispensary. Last week (when she appeared at the dispensary) was the first time I had seen her for nine months.

In defense of her present condition, I must say that I endeavored to urge on the mother the importance of the child's having the proper mechanical treatment to prevent just the condition of affairs in which we now find her.

Present Condition.—General condition poor; patient totally unable to bear any weight on left limb. Standing, presents four inches of apparent shortening, but upon careful measurement, we find less than three-fourths of an inch of real shortening. Very marked atrophy of the limb. Measurements show that the limb rests in thirty degrees of adduction, and admits of no motion, either voluntary or passive. When she is under ether, we will be able to tell whether this ankylosis is due to muscular spasm or fibrous adhesions in the joint. The joint is very acute, and the least attempt at passive motion will throw the joint into a state of clonic spasm causing great pain.

You will observe that the normal condition of the hip is entirely obliterated; also you will notice that there is a prominent swelling on the external aspect of the hip just below the trochanter major. This swelling is an abscess, the result of a rupture of an intra-capsular collection of pus into the peri-articular structures. This pus found its way into the capsule of the joint as a result of the osteitis having extended from the cancellous structure of the head of the femur through the periosteum. The capsule distended to its limit as the pus accumulated, and then ruptured near its insertion at the trochanter; the pus then followed the course of the muscles inserted about that bony prominence. and has now come to the under surface of the skin several inches lower, and if it is not now properly cared for, will soon find an external opening through the skin by spontaneous rupture.

The question of what is to be done with this large abscess and this adduction deformity now presents itself. After these two complications are attended to, then what is best to be done with the limb? The course to be pursued is very plain. The abscess will be evacuated by aspiration if the pus is not too thick and heavy to flow through the aspirator needle; otherwise, I propose to let it alone until its presence causes some systemic disturbance. Anything else I consider meddlesome surgery.

It is a great mistake to think that every cold abscess should be evacuated by open incision. I never consider it necessary unless it produces some systemic disturbance. Such abscesses often remain dormant for months, or years; finally, the abscess is absorbed and eliminated, and the patient gets well. On the other hand, if you incise it, the best you can hope for is to have for months and months an open wound, which will have to be dressed daily; and even with greatest antiseptic precautions, there will be great risk of the wound becoming infected and producing a septic temperature which will continue just as long as the wound is open. With a constant septic temperature, there is always danger of amyloid changes in some of the viscera.

As to the adduction deformity in this case, I propose to correct it by gentle manual force after the patient is etherized. This can be done easily if the deformity is due to

spasm alone; but if it is due to contraction of the adductor tendons, then I will do a subcutaneous tenotomy of those tendons. After this is done, I propose to incase the limb in a plaster-of-Paris spica in the best position obtainable by gentle force. I will then leave this limb in plaster until the spasm is sufficiently overcome to admit of the application of a long traction brace.

After aspirating these abscesses, I always strap them with strips of adhesive plaster after the manner of strapping a sprained ankle. Over this, apply a snugly-fitting roller bandage so as to produce a gentle pressure. This will protect the skin from spontaneous rupture and add very much to the comfort of the patient. The aspiration should be repeated just as long as indicated.

In repeating the aspiration, never insert the needle at the same place, for in this way you will soon destroy the integrity of the skin to such an extent that a spontaneous rupture will occur in spite of all of your precautions to prevent it.

A great deal has been said about irrigating these abscess sacs with all sorts of antiseptic solutions, but it has not been my good fortune to see any advantage follow this method of treatment over the *let-alone* treatment. Antiseptic emulsions are still advocated by some surgeons, aspecially an emulsion of iodoform and oil; but upon the whole, they are not being used as much as they were a few years ago. Statistics have failed to show any advantage gained by these emulsions.

For my part, I am fully convinced that the progress of a tubercular osteitis can not be at all improved or cut short by using any local treatment to the abscess sac that is nothing more nor less than a reservoir for the pus that is being generated by the process of osteitis that is too far distant from the abscess sac to be reached by any emulsion. If it were possible to inject the emulsion into the carious bone—the seat of the trouble—then I would expect good results; but I cannot think it possible for it to be of benefit to simply inject it into the sac, which is often many inches from the seat

of the osteitis. I have seen excellent results follow the use of iodoform and oil in purulent arthritis of joints where the inflammatory process was confined to the soft parts. In other words, antiseptic injections are indicated in chronic purulent tubercular synovitis.

Any deformity that may be present in an acute case of hip disease should be corrected at once, provided it can be done without using much force, but *never, never* use much force. If you cannot correct all of the deformity at the first sitting, then put the limb up in plaster spica in the best position you can gain with gentle force; allow it to so remain for about two weeks, at which time remove the spica, and the chances are that the reflex muscular spasm will have subsided from the absolute rest to such an extent that you can then gain something more. Repeat the former procedure and so on from time to time, and in the majority of cases within a few months you will have corrected all deformity. Then you must adopt such mechanical measures as may be necessary to prevent a recurrence. There is always a tendency to a recurrence just as long as any muscular spasm remains.

If, by these measures, you cannot correct the deformity in the early stage of the disease, you may be sure that the reparative process has begun, and there is a fibrous adhesion in the joint. When this is the case, anything like *brisement force* should be scrupulously avoided, for by breaking up these fibrous adhesions you open up a new field of invasion for the germs that are causing the trouble. The results obtained from femoral osteotomies in these cases after all acute symptoms have disappeared, are so very excellent that one is not justified in taking any risk of increasing the inflammation in the early stage. On the contrary, do everything to hasten a cure, whether it be with a stiff joint or not. At the same time use every necessary means to prevent ankylosis; but just as soon as you see that it is inevitable, then use the best means to have the joint get well with the limb in the best possible position for locomotion.

1305 *H Street, N. W.*

Art. V.—Bovine Tuberculosis in Relation to Public Health.

By W. H. HARBAUGH, V. S., of Richmond, Va.

That bovine tuberculosis has become the leading question in State medicine cannot be doubted by any one who is abreast of current medical literature. In Europe, every government is guarding more particularly against this disease than all other contagious or infectious diseases. Every where money, in limited or unlimited amounts, is being appropriated in attempts to stamp out, or check the spread, of this disease. The subject of tuberculosis is the absorbing topic at all city, county, State or district, national or international veterinary medical conventions. At the International Veterinary Congress, held at Berne, Switzerland, last September, all of the European governments were represented by their most distinguished veterinarians—men whose abilities are universally recognized, and, as a matter of course, every disease having any international importance received some attention; but tuberculosis, as usual, proved to be the subject which brought out in discussion the results of the labor of the most brilliant men present. This Congress practically settled the question as to the value of tuberculin as a diagnostic agent for tuberculosis by passing the following resolution: "Tuberculin is a very valuable diagnostic, and can be of the greatest service in the fight against tuberculosis. There is no ground for warring against its general use for fear of its aggravating the disease already present."

The agitation of other questions pertaining to State medicine have their day, then die out, and their proper standing is assigned in literature; but the agitation of the subject of tuberculosis does not die out—it is daily becoming greater, and is being considered of a more serious nature, as experience and experiments are constantly adding facts to what is already known concerning it.

For the extraordinary prominence of this question there are two good and sufficient reasons. They are:

First. The fact that tuberculosis in man and the lower animals is the same disease, due to the same cause—the tubercle bacilli.

Second. The fact that the disease is transmissible, being intercommunicable between the lower animals and man.

Cattle seem to be peculiarly susceptible, and there can be no doubt that the percentage of affected cattle is increasing to an alarming extent. It is not many years since the impression prevailed that bovine tuberculosis was almost entirely confined to high-bred and in-bred dairy cattle. Some years ago, the writer was of opinion that the Jersey breed furnished the great majority of cases, but the experience of recent years gives positive evidence that the disease is not, by any means, confined to any particular breed. We find it in the herds of the best breeds and among the commonest of cattle. Up to a very recent period, bovine tuberculosis was considered a disease to be propagated only among cattle closely housed and poorly fed; milch cows, especially those forced to produce the largest quantities of milk, were supposed to be particularly predisposed to the disease; but proper investigation now proves that the inferior, neglected cow, which forages for its livelihood on roadsides and commons, or in a semi-wild state in the woods, never being closely confined, is frequently the subject of tuberculosis as evidenced by post-mortem examination.

Formerly it was thought that the disease was almost entirely confined to the Eastern States, especially in and about the larger cities, but recent investigations have aroused the Western States, and their investigations have shown the disease to exist in herds that never have been housed, as well as in valued herds which receive every attention usually paid to prize stock.

The disease is certainly spreading, and experience has shown that all that is necessary to increase its further spread is the introduction of an affected animal into the stable, yard, or pasture, where other cattle are kept. It was by this means that the disease was spread all over our country,

from the isolated pasture of the breeder to the wide prairies of the West.

No veterinarian who has had any cattle practice for the past ten years can ignore the fact that he meets with two or more cases of the disease now to the one he met with ten years ago.

There seems to be a well-grounded belief that to the high bred imported cow we are originally indebted for the introduction of the disease; but one cow, high-bred or low-bred, after she is affected, can further spread it with equal certainty.

One great reason that the veterinarian meets with so many more cases now than formerly is certainly due to the fact that the great agitation of the subject has in a manner put him on his guard for this particular disease, and he therefore uses more care in the examination of his patients. Besides, the tuberculin test has placed in his hands an agent to detect cases which were simply impossible to diagnose by physical examination or microscopical examination. It is safe to say that tuberculin diagnoses thousands of cases that manifest no symptoms by any other means of diagnosis. A recent examination of a herd in this vicinity is an illustration of this fact, wherein the tuberculin test showed that seventy-one per cent. of the cattle were affected in a herd previously supposed to be healthy. While it is true that if the tuberculin test had been applied ten years ago to the extent it is now practiced, it would have detected as many cases, in proportion to those in existence, as it now does, it is nevertheless a fact that physical examination alone detects so many more cases now than formerly, that we are simply compelled to face the fact that bovine tuberculosis is greatly increasing in its prevalence; and in proportion as it increases, so does the danger to human life increase by the use of affected meats and dairy products.

The two great channels by which the system is invaded by the tubercle bacillus are the respiratory and the alimentary tracts, and it is now recognized that the former has received more attention in the past than was its proportionate

due, to the neglect of the great importance of the latter. But the many convincing experiments of recent years have demonstrated the fact that infection through the digestive system is a common mode of invasion, and hence the fact is emphasized, that if we desire to lessen the chances of infection in the human being, we must assure a food supply of animal products free from infection.

When we consider the great prevalence of bovine tuberculosis, and how much of the food supply of man is derived from the bovine race, we must acknowledge that we all devour more or less tubercle bacilli with our meat, milk, and butter, but as the strong and healthy adults are able to resist their effect, unless the number swallowed is great, it is usually the young or weak who suffer.

All animal products affected with tuberculosis are dangerous as human food, and too much weight is given to the assertion that cooking destroys the bacilli. While it is a fact that boiling the milk destroys the bacilli it contains, it is to be remarked that when meats are cooked sufficiently to destroy all the bacilli that may be in them, such extreme cooking renders the meat unpalatable to the majority of people.

It has been shown that the lymphatic ganglia may be affected with tuberculosis when not even the slightest lesion can be discovered to point out the channel through which the system was invaded. To the anatomist, it is obvious that one can scarcely purchase a piece of meat that does not contain more or less lymphatic glands. Hence, muscular meat, prime to all appearances, may be dangerous on account of an affected gland or glands in it.

Leaving out of the question all the positive experiments which have been made by Chauveau, Gerlach, Harmz, Gunther, Johne, Nocard, Peuch, Viseur, Klebs, Bollinger, Baumgarten, Bang, Zurn, Roloff, Blumberg, Lange, Orth, Toussaint, Zschokke, Dixon, and many others, abdominal tuberculosis is too frequently met with both in man and beast to ignore the danger of devouring food containing tubercle bacilli.

The gastric juice may weaken, or even destroy the bacilli, while it has no effect on their spores, which, as the experiments of Straus and Wurtz have shown, may go through the mucous membrane without affecting it, and produce tuberculosis of the mesenteric glands.

The percentage of affected cattle is large, much larger than is generally supposed, even by many who have made a special study of the subject. It is, of course, impossible to arrive at any accurate conclusion without an examination of all cattle. In this country, we can only refer to herds that have been examined, which are few in comparison to those which have not been examined. But when we take into consideration the number of animals known to be affected, and also the fact that it is only necessary to introduce one of such affected animals into a stable previously free from the disease in order to infect one or all of the previously healthy animals, a faint idea of the percentage of diseased animals may be gained.

In the bovine species, the frequency of tuberculosis increases with age. It is rarely met with in the very young calf. Congenital tuberculosis is rare, as fœtal infection usually causes abortion.

At Munich, one million calves killed from 1878 to 1882, showed but five cases of tuberculosis. At Berlin, of eighty thousand calves killed in 1885–1886, seven were tuberculous, and in 1886–1887, in ninety thousand calves killed, only six were tuberculous. At Augsburg, from 1873 to 1886, two hundred and thirty thousand calves were killed, of which nine were tuberculous. These statistics, from the reports of reliable abattoir inspectors, show that congenital tuberculosis is far from being as frequent as some assert. It is evident that breathing and eating favor infection.

In some parts of Europe, the percentage of affected animals is reported as very high, as, for instance, Holland, 20 per cent., and in the Hollandish breed of cattle 50 per cent. In the Grumberg district, 15 to 20 per cent. In other countries, from 50 to 70 per cent.

There are, however, places in Europe where slaughter-

house statistics show but few cases of tuberculosis. In the slaughter-houses of Munich and Augsburg, from 2 to 11 per cent. is recorded; in Berlin, from 4 to 5 per cent.; in Paris, 6 per cent.; in Belgium, 4 per cent. But the slaughter-house statistics of European countries cannot be taken as the general average for such countries, for the reason that a stringent meat inspection is enforced there, and, as a consequence, no suspicious cases are, as a rule, sent to the slaughter-house, as it is well known that condemnation of a part, or the whole carcass, is sure to follow. Therefore the foregoing figures infer that the percentage in the countries named is very high.

In this country, the percentage has been found to vary very much, even in States and sections of States, so much so that no general average can be relied on as approaching anything like accuracy.

In Massachusetts, the government is making systematic efforts to stamp out the disease, and while tuberculin is used as a test, some valuable information is disclosed. In different sections, the percentage varied from less than 1 per cent. to 52 per cent. In some large herds, the percentage reached as high as 95 per cent. Out of 24,000 animals tested with tuberculin during a recent twelve months, 3,450 were killed as tuberculous.

In Iowa, of the total number of animals tested by the State Experiment Station and the State Veterinarian, over 10 per cent. were shown to be diseased, but this percentage cannot be made to apply to the entire State, as only herds in a few counties were included in the test.

In some herds in the vicinity of New York, the percentage has been found as high as 60 to 70 per cent.

In Virginia, different tests, clinical facts, and post-mortem examinations, show that the disease is as prevalent here as elsewhere, but neither State nor municipal authorities have perfected any measures to check or stamp out the disease, or to protect human health from the certain danger of consuming tuberculous meat and milk.

The medical profession has not given bovine tuberculosis

the consideration it should command as an important factor in the production of human tuberculosis. This is largely due to the fact that few medical men realize the great extent of the disease in the bovine species. Recently, however, veterinarians are being called on to furnish evidence in this respect for the medical profession, and valuable will be the results in regard to human life. At a meeting last November of the Section on Public Health of the New York Academy of Medicine, no less than four papers on tuberculosis were read by as many veterinarians. Medical men generally put the average of affected animals too low. But Osler (who was for years connected with McGill University and the University of Pennsylvania, both of which institutions have veterinary departments,) in his second edition (1895), recognizes the gravity of bovine tuberculosis in relation to public health, and points out the urgent necessity of meat and milk inspection.

Some very interesting facts are recorded in connection with the efforts that are being made to stamp out bovine tuberculosis.

Over two years ago, a famous herd of Jersey cattle in Massachusetts was tested with tuberculin; of the seventy head of cattle in the herd thirty reacted to the test and were destroyed, showing the disease in all its stages. The premises were thoroughly disinfected, and care was taken that no tuberculous animals should contaminate the healthy cattle. Last October the herd, then numbering eighty-six, was tested again with the result of not one reaction, not even a trace of the disease being found in the herd.

This, and many other results like it, show how easy it would be to assure a milk supply free from tuberculous infection, under proper supervision of dairy cattle.

At Copenhagen, during four years, 1890 to 1893, inclusive, the percentage of tuberculous oxen and cows slaughtered at the abattoirs was 17.7 per cent. This high percentage among animals slaughtered for human food caused the Government to institute more stringent measures for the

suppression of the disease. The scheme of Prof. Bang, of Copenhagen, is as follows:

"The whole herd is tested with tuberculin, and thus divided into a healthy and a tuberculous section, which are separated from one another, and have separate attendants. The healthy section is tested every six months with tuberculin, and any animals which react are at once removed to the tuberculous section. Those animals of the tuberculous section which are obviously affected, are got rid of; but those which are apparently healthy, are kept and used for breeding purposes as long as may be convenient, and as thev will generally be fattened for slaughter before the disease is far advanced, the total condemnation of their carcasses as butcher's meat will not, as a rule, be necessary. The calves of the tuberculous section are removed to the healthy section immediately after birth, and are fed for the first day on colostrum, which has been heated to 149° F.; and subsequently on boiled milk, this boiled milk being from the tuberculous cows. At first these calves were kept in separate boxes, and only added to the healthy section when they had successfully undergone the tuberculin test, but he now thinks that they may with safety be removed to the second section immediately after birth, and wait till the time of the general half yearly testing with tuberculin."

One experiment of Bang's will illustrate the practicability of his scheme which is now generally followed there. At the farm of Thurebylille, in Zeatland, he, in May, 1892, tested the whole herd consisting of 208 head. Although they seemed healthy, and there had been no special amount of infection suspected, 80 per cent. of the milch cows, and 40 per cent. of the bulls, heifers and calves reacted. While the herd was not at grass, the two sections were kept apart, the byre was thoroughly disinfected and divided into two parts by a wooden partition, covered on one side with felt. A separate staff was told off to look after each section, with orders not to go from one to the other. It was decided to test the healthy section twice a year, and the calves of the tuberculous section as soon after birth as possible. In October,

1892, the healthy section consisted of seventy animals, of which seven reacted and were removed to the tuberculous section. In May, 1893, the healthy section consisted of 103, of which ten reacted and were removed to the tuberculous section. After this, the isolation of the two sections was more vigorously enforced. In October, 1893, the healthy section consisted of 107, of which one reacted. In May, 1894, out of 122, two reacted. In October, 1894, out of 119, one was suspicious, and in May, 1895, the healthy section consisted of 136, of which none reacted. The few animals bought during these three years were tested before being introduced into the herd. Most of the calves born during this period were the calves of tuberculous cows, but none of them have developed tubercle, with the exception, perhaps, of one calf which, when tested when six and a half weeks old, gave a reaction. "These results show that a healthy stock may be had from a tuberculous one by the simple precautions of separating the healthy from the infected, and boiling the milk of the infected cows."—[*London Veterinary Journal.*]

The method of eventually getting rid of bovine tuberculosis as devised by Bang for Denmark, where the question of the destruction of an entire animal is a serious question, on account of decreasing the human food supply of animal products, is not at all necessary in this country where we have animals to spare for other countries.

But Bang's method shows what may be accomplished with greater certainty here. It shows that the breeder may free his herd of tuberculosis, and that he may afterwards keep it healthy, thereby stopping one of the greatest causes of the spread of the disease. It shows that the farmer who raises or fattens beef for the market can, after the first losses necessarily caused by ridding his herd of the disease, supply beef free from tuberculosis.

And what is of much greater importance, it shows that towns and cities can assure a milk supply for their inhabitants positively free from infection, by a practicable, systematic dairy inspection. To accomplish this desired result,

it is obvious that it is only necessary for each town or city to have a competent veterinarian attached to its board of health, whose duty would be to test all dairy cattle the milk from which is supplied to the citizens. No dairyman should be allowed to dispose of milk within the limits of a corporation without a permit from the board of health, such permits to be granted only with the proviso that the dairyman will comply with all the rules and regulations established by the board of health. Such rules and regulations should include, of course, provisions which will prevent the milk from tuberculous cattle reaching consumers, by simply excluding all cattle from dairies which are shown by the tuberculin test to be tuberculous, and by testing every cow before it is added to a dairy.

Cattle proved to be tuberculous could be destroyed, and their carcasses manufactured into fertilizers. Here there is no necessity of the trouble of keeping those not obviously affected, as is done in Denmark. But so far as the milk supply is concerned, the final disposal of tuberculous cattle need not enter into the question, it being sufficient to exclude them from dairies and their milk from the market. They would, more than probable, find their way to the slaughter houses, as they do now, but the danger to human health is not so great from eating the meat as it is from the unboiled milk.

The question of assuring a meat supply free from tubercle bacilli, is much more difficult to deal with than the milk supply, so long as cattle are prepared for the market in private slaughter-houses. One or more public abattoirs, where all cattle supplying a market could and should be slaughtered, would make the question of meat inspection a simple one to deal with, as all animals could then be inspected both before and after slaughter, and such animals, or parts of animals, found to be unfit for human food could be condemned. However, as the liability of human infection from meat is so much less than from milk, the question of milk inspection is of far greater importance, and its establishment should be urged to the utmost by every medical man.

Of much interest is the percentage of the different organs found affected in the bovine species. Nocard gives it as follows: Lungs and pleura, 40 per cent.; lungs alone, 20 to 25 yer cent.; pleura and peritoneum alone, 15 to 20 per cent.; lymphatic glands, genital organs, mammæ, bones, articulations, 15 to 25 per cent. Muscle, freed from infected glands and other contaminations, is looked upon as safe, but it must be remembered that any tuberculous organ may transmit the disease if ingested. No matter where the primary lesion, when the disease becomes generalized, the invasion of the different organs is given as follows: Lungs, usually 100 per cent.; pleura and peritoneum, 90 per cent.; liver, 85 per cent.; buccal cavities, pharyngeal and intestinal cavities, 60 per cent.; spleen, 50 per cent.; kidneys, 50 per cent.

Milk from cows with tuberculous udders is obviously infectious, and milk from cows with udders free from tuberculosis, but with the disease in other organs, has been proven infectious so often that all tuberculous cows should be excluded from dairies.

Several years ago, the cattle of the Miller Manual School in Albemarle county, this State, were tested with tuberculin, and all those found to be tuberculous were destroyed. At the meeting of the State Board of Agriculture, held in this city in January (1896), Capt. Vawter, of the Miller Manual School, addressed the meeting on the subject of cattle diseases, and I am informed that he said, in substance, that previous to the eradication of tuberculosis from his herd, consumption was a prevailing disease among the pupils of his school, but since the disease among the cows was stamped out, consumption no longer exists among the pupils.

The question of milk infection for towns and cities in Virginia is by no means a difficult one, as the dairies are all in the immediate vicinity of the consumers. Nor would it be difficult even if some of the milk came from outside the State. Washington city has settled that point. The Health Office of the District of Columbia, through its vet-

erinarian, enforces the law governing dairy inspection, and this law makes it compulsory for all cows that supply milk for the city to be inspected and a certificate granted that such cows are free from disease before their milk can enter the city. It is worthy of notice that cows in Virginia, as well as in Maryland, furnish milk for Washington consumers.

Dairymen in this vicinity with whom the writer has conversed are not opposed to milk inspection; on the contrary, many of them are strongly in favor of it; but if the measure is instituted, they desire a competent veterinarian as inspector, one who will do justice to the dairyman as well as to the consumer. They want no such a farce of inspection as a pretender to veterinary knowledge walking through a herd of cattle in the field, and then writing a certificate that the herd is free from the disease. Dairymen appreciate the fact that after all tuberculous cattle are separated from their herds, the testing of every cow they purchase, to assure her freedom from disease before she is added to the herd, will be a great gain to them.

The most practical cattleman in this section, a few days ago, informed the writer that formerly he had doubts as to the contagiousness of tuberculosis, and to settle the question he fed the milk of a "wasting" cow to a healthy calf for about three months, in fact, till the cow died; he made a post-mortem examination of the cow, and found her affected with tuberculosis to a great extent. As the calf appeared to be in good health at this time, he did not destroy it, but fed it for two months longer, and then decided to kill it, when he found, upon post-mortem examination, generalized tuberculosis to such an extent that it caused him to wonder how it could live without showing some symptoms of disease. This gentleman no longer has any doubts on the subject, and he is a powerful advocate for rigid inspection of all dairy cattle.

While Virginia has neither State nor municipal laws on the subject, all the Northern and Western States legislate against bovine tuberculosis. The President of the Rich-

mond Board of Health has for years endeavored to have the city council pass an ordinance enforcing dairy inspection, but has met with no success. Thus we are left at the mercy of this scourge of the human race, while cities of much less importance take every precaution against the danger of infection through their milk supply.

More than once, when advocating the necessity of dairy inspection, the writer has been accused of an endeavor to create an office for himself, but the President of our city Board of Health will certify that the writer has always asserted most emphatically that, under no circumstances, would he accept the office of inspector should such office be created. The friends of the writer are fully aware that he could not afford to sacrifice any time from his private practice to attend to the duties of a dairy inspector. And it is obvious that in order to be an impartial officer the dairy inspector should not be a private practitioner. The writer hopes that this personal reference will relieve him from the charge of self-interest in the discussion of this question.

A short review of what is being done in some other States will be of interest here:

Maine—Contagious animal diseases are in the hands of a commission. This State has been quarantined against tuberculosis for some years, and it claims to be comparatively free from it, but quite receutly the board of health of the city of Portland had reason to suspect its milk supply. In a herd of 31 cows one case was discovered by physical examination, when the tuberculin test was applied to the whole herd, and 18 out of the 31 were shown to be affected.

New Hampshire.—Commission composed of the Secretary of Agriculture, the Master of the State Grange, and the State Board of Health, has the power to investigate, and destroy diseased animals.

Vermont.—The subject is in the hands of the State Board of Agriculture. The law does not limit the amount to be expended in the destruction of affected animals. Assistants to the Board are employed especially to apply the tuberculin test.

Massachusetts.—The most systematic efforts of any State in the country are being made in this State to stamp out tuberculosis. The laws are enforced by a cattle commission. Besides the regular work of the commission, they test with tuberculin any herd when requested to do so. During the latter half of 1895, tests were made on individual herds, by request, as follows: July, 10; August, 68; September, 74; October, 92; November, 138; to December 16th, 153. In these tests were included the examination of 4,093 animals, and 1,081 of them were condemned. Out of 314 herds, only 24 herds were found free from tuberculosis. At Worcester herds were recently examined, and 50 per cent. of the cows found were affected and condemned.

Rhode Island.—The State Board of Agriculture has charge of the cattle diseases. This little State appropriates $15,000 annually for this work. The Board has authority even to seize and condemn carcasses in slaughter-houses found affected.

Connecticut.—Commission on animal diseases. Power to quarantine against suspected cattle in or out of the State. Also to make and enforce rules for stable sanitation.

Pennsylvania has a Live Stock Sanitary Board consisting of the Governor, Secretary of Agriculture, Dairy Commissioner, and State Veterinarian, which has full power to deal with diseases of animals. The law does not limit the amount to be expended in suppressing disease.

New Jersey.—A Commission of seven has charge of the subject. Expenditure limited to $5,000.

Maryland has a Live Stock Sanitary Board.

New York.—Tuberculosis in charge of State Board of Health, with power to condemn affected animals. Thirty thousand dollar appropriation to pay for condemned animals.

Michigan, Indiana, and other States have Cattle Commissions with greater or less power to deal with this and other contagious animal diseases.

In *Iowa,* the power is in the hands of the State Veterinarian. As a matter of course, all States having boards or commissions to deal with this question have one or more veterinarians employed as State officers.

The county of Alameda, California, is up to date; its law in regard to tuberculosis is as follows:

"Section 1. Every milch cow or other animal within the county of Alameda having tuberculosis, shall at once be deprived of life by the owner or person having charge thereof, upon discovery of its condition. Any such owner or owners violating or refusing to comply with the provisions of this section, shall be deemed guilty of a misdemeanor.'"

Any person violating the law is subject to a fine of not less than fifty dollars and not more than one hundred dollars, and if the fine is not paid, the person is imprisoned in the jail a day for every two dollars of the fine.

Three bills have been introduced during the present session of our Legislature, the object of which is the control and prevention of contagious animal diseases. Only one of these bills makes any special reference to tuberculosis, and this bill is the only one of the three which specifies an amount to be appropriated sufficient to make a bill effective, even in a limited sphere.

The writer was invited to address the sub-committee of the Senate having under consideration these bills, and while he recognized the necessity of legislation in regard to other animal diseases, he endeavored to impress the fact of the greater importance of bovine tuberculosis.

At the time of writing this, nothing has been reported by the committee, and it is feared that an amount necessary to make any bill effective will defeat any desirable legislation on the subject. But even if the State does, or does not, legislate on the subject, it is the imperative duty of town and city authorities to assure a milk supply for their inhabitants free from infection.

NOTE.—Since the foregoing was in print, the General Assembly has passed a bill, which is now a law, under which the spread of contagious diseases of animals may be prevented. The act makes no appropriation for the stamping out of tuberculosis, but it says that "the disease known as tuberculosis shall be classed as a highly contagious and infectious disease," etc., etc. This law, declaring tuberculosis to be what it really is—a highly contagious and infectious disease—will make it all the easier for town and city authorities to establish and maintain a perfect system of dairy inspection, and thus protect human beings against the danger which exists at present.

Art VI—A Contribution to the Study of the Treatment of Diphtheria, with Especial Reference to the Use of Antitoxic Serum and Pilocarpine.*

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It is not my purpose to add anything to the statistics of the antitoxin treatment. The mind which is as yet unconvinced by the array of figures published, is certainly not open to conviction by this method. I must myself confess to a preference for the old-fashioned system, which was based upon the value attached to the opinions of those entitled to speak from experience. I find, for instance, Widerhofer's clear declaration more inspiring than any array of figures. He says: "My belief is firm: What I have written I have seen, and what I have seen, that I believe."

My object in appearing before this honorable Society is to state from my own experience and observation what the antitoxin treatment may be expected to do; to see wherein it fails to cure; and to enquire what supplementary treatment is called for.

The antitoxin does one thing only, and does it well. It secures the organism against the further ravages of diphtheria within eighteen to thirty-six hours after its administration. If this result be not obtained, the serum was of inferior strength, or the dose was too small. Beyond this, antitoxin does nothing; it neither repairs the damage already done by the toxines, nor does it assist the organism to arise from the depression produced by them. The publication of the instantaneous effects produced upon moribund patients by the serum injections, does much to

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* Read before the Alumni Association of the Missouri Medical College, February 13, 1896.

retard its universal acceptance as the greatest advance made in the healing art since the time of Jenner.

Given in a *case of unmixed infection* in a child of, say, seven years, injected with a serum of 2,000 units,* or more, according to the urgency of the case and the period of the disease, we observe the following effects:

For eighteen to twenty-four hours, no result whatever; at the end of that time, we see the swollen cervical glands rapidly subsiding. At the same time the temperature, if it has been high, falls to 101° F., or even to normal; the pulse rate is also much slower; the secretions are re-established, and the fœtor of the breath is much diminished from this cause. The urine becomes more abundant; appetite perhaps returns. The membrane, which may have continued to spread until this time, never advances a line further. The exfoliation of a very thick membrane may be delayed for several days, while that of a few hours' growth disappears by disintegration within the next few hours. If the membrane be forcibly detached, a secondary membrane forms, though it never attains to any considerable thickness. In *nasal diphtheria*, the separation is generally attended by hæmorrhage, which invariably sends the temperature up, sometimes as high as 103°; otherwise, the temperature does not rise again.

Lennox Brown makes an exhaustive report of one hundred cases treated by serum, in which the mortality was 27 per cent.—just the average mortality for the hospital under the classic treatment. On post mortem, it was found that the deaths were largely due to nephritis, which was in fact much more common than under other treatment. In those that recovered, convalescence was tardy, and the patients presented a pale and listless appearance.

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*Perhaps it would be well to explain what a "unit" is. "Normal antitoxic serum" is that of which 0.1 c.c., injected into a guinea pig, neutralizes a tenfold lethal dose of toxine fluid. A "unit" is 1 c.c. of this serum. The reliable commercial serums are from 100 to 500 times as strong as this normal serum, as Behring now sells a serum of this latter strength.

This experience is so much at variance with that of the majority of observers, that it calls for serious thought on the part of the advocates of the serum treatment. The name of the author compels careful consideration of the facts, in the same fair spirit which he has shown in presenting them. The explanation lies, I believe, in the two facts, that he used the serum treatment as an *adjuvant* to the classic treatment, and that he practiced repeated injections.

As to the *first point*, we learned in the earliest reports of the treatment sent from Berlin by Dr. Kenyoun, that it was incompatible with the use of carbolic acid and mercuric chloride, even locally. The probable explanation lies in the increased irritation of the kidneys by the absorption and elimination of these drugs. The same objection holds against the salicylates (which, according to Steer, will produce albuminuria and casts when administered to well persons), to the chlorates, and to glycerine.

As to the *second point*, I do not see the rational basis for practising repeated injections, as immunity against the further inroads of the disease is all that can be asked of the serum; and as that immunity once acquired is not lost for several weeks at least, the indication would seem to be to give a sufficient dose at the earliest possible moment, and abstain from further injections. Beside the causes of irritation of the kidney given, the following are to be enumerated: First of all, the toxines of diphtheria; then the heterogeneous serum, containing its normal toxines; and lastly, the products of disassimilation, which are normally excreted in largest amount at the beginning of convalescence.

In regard to the toxines of the disease, we have less to fear under the serum treatment than under the classical, seeing that their production presumably ceases within twenty-four hours after the injection. As to the normal toxicity of the injected serum, Bouchard tells us that healthy blood would become fatally toxic if its toxicity be increased 1,000 per cent.; and certainly we ought not to fear on this score the effect of the introduction of normal blood toxines to the extent of 2 to 3 per cent., at the most, of the whole

normal blood toxines of the patient. I apprehend that the greatest danger to the kidneys from the normal toxines is to be attributed to the work thrown upon them by the sudden occurrence of convalescence. The most obvious proof of this is to be seen in the marvellously rapid subsidence of the swollen glands of the neck. The absorption of so much material must entail great additional work upon the eliminative organs. Another factor in considering the possible causes of irritation to the kidneys, and one not to be overlooked, is the antiseptic used in the preservation of the serum. In my experience the camphorated serum causes urticaria, or some eruption of the skin, in almost all cases; the serum preserved with carbolic acid, or trikresol, in about 15 per cent. of all cases. Whether the frequency of the rashes from the first named is due to the camphor itself, or to the less perfect preservation of the serum, I cannot say. The trikresol causes smokiness of the urine, which, however, only appears after standing for some hours. Personally, I have a strong preference for the trikresol serum, inasmuch as it produces fewer rashes than the camphorated serum, and because trikresol is known to be far less poisonous than carbolic acid.

The antitoxine treatment has made a place for the long-lost pilocarpine treatment of Guttmann. That eminent clinician must have found some advantage from the drug, although the profession condemned it as too dangerous. True, it was established that cases of coccus infection, as we now know them to be, were benefitted; but even this fact seems to have been lost sight of. The goal in true diphtheria was too far off—the separation of the membranes—seeing that many patients perished from heart failure, œdema of the lungs, or suffocation, caused by the inspired saliva.

Lately Wallstein has administered pilocarpine in diphtheria with a view to increasing lymphocytosis.

My employment of the drug has been with still another view, founded upon my observation of the renal function in severe cases. I discovered, to my surprise, that the urine for the first day or two is abundant, pale, non-albuminous,

and of low specific gravity; in one case it was 1,007, whilst the patient was profoundly toxæmic, with high fever and delirium. The explanation would seem to be that the kidneys are insufficient, refusing to excrete the toxines, or even the normal solid constituents of the urine. Urotoxicity being diminished, the toxicity of the blood is increased in inverse ratio.

As antitoxine does not immunize the organism against the toxines for nearly twenty-four hours after its administration, a remedy is needed which will secure their immediate elimination. I believe that we have such a drug in pilocarpine,* which casts out the toxines by way of the salivary glands. Bouchard states that there is no such thing as vicarious function, but it seems to me that there is abundant clinical and experimental evidence to the contrary, and we may hope that there will soon be chemical confirmation of the fact, seeing that it is reported that Brieger has identified the toxines of diphtheria.

Several years ago, it was established by Yarrow in Washington that jaborandi would save animals which had received a four-fold lethal dose of rattle-snake venom. Serpent venoms, it is true, contain animal alkaloids, but their most virulent constituents are non-alkaloidal, and therefore most likely analogous to the toxines of acute diseases.

DaCosta's *treatment of erysipelas by pilocarpine* gives brilliant results, and I have observed that the temperature falls *pari passu* with the progress of salivation. I have made the same observation in the *treatment of scarlet fever, and of measles*, by this drug. In fact, I know of no remedy which so rapidly reduces the initial high temperature of scarlet fever, and so favorably affects the course of the disease. In severe cases of diphtheria, pilocarpine reduces the temperature rapidly from 103° or 104° to 100° or 101°, and within twelve hours to normal; at the same time, all the vital symptoms improve. Twenty-four hours after the antitoxine

*In the *Medical Weekly*, January 3, 1896, I see a very favorable report, by Dr. Barsky, of Russia on the combined treatment by antitoxic serum and pilocarpine, showing that others, as well as myself, have obtained good results by this method.

injection, there is no further use for its administration unless, perhaps, the case be one of mixed infection. The urine becomes high-colored, rises in sp. gr., is loaded with urates, and generally contains a good deal of albumen. During the next day or two, the sp. gr. becomes still higher, while the albumen diminishes, or disappears, as also the urates. In a very few cases, the albumen persists for several days, or even several weeks, without the appearance of any morphological elements from the kidney. These cases of persistent albuminuria remain pale, and suffer from neuralgic pains for a long time. At this early stage of the diease, no danger is to be apprehended from heart failure, or suffocation, unless laryngeal diphtheria be present; in that case, the administration of pilocarpine is fraught with great danger, either before or after intubation. The danger in these cases, is from suffocation by the saliva, and by exfoliated membrane. In pure coccus infection, pilocarpine acts as a specific, reducing the temperature to almost normal after the occurrence of salivation, and shortening the course of the disease greatly.

To my mind, the action of pilocarpine in all these infectious diseases is the same; the toxines are eliminated with the saliva; the kidneys, which had refused to eliminate them, resume their normal function; the antitoxines, produced by the action of the toxines in the system, assume their sway, and immunity is thus more rapidly acquired. In cases of diphtheria, the foreign antitoxine comes to the rescue, and the organism is saved from the further inroads of the disease. In erysipelas, the action is almost specific; the invaded surface rapidly returns to a normal appearance, and frequently the disease is aborted.

In diphtheria, the dangers of the first twenty-four hours are averted, as death from convulsions, or overwhelming toxæmia; and the dangers of convalescence, I believe, are greatly lessened by the rapid elimination of the toxines, whose blighting touch brings about later neural degeneration, with consequent paralysis, and nephritis. I believe that these sequalæ are determined at this stage of the dis-

ease, just as in the mildest cases of scarlet fever, in which the fever lasts but twenty four hours; we see a nephritis following several weeks later. Lennox Brown calls attention to the fact that often the high temperature in diphtheria lasts not longer than two or three days, and that this fall in temperature has been attributed to the action of antitoxine.

The cause of this phenomenon is two-fold: In the *first place*, about this time the kidneys resume their normal function, and the diphtherial toxines are eliminated for the first time. In the *second place*, the membrane begins to putrefy, emitting its characteristic stench, and poisoning the patient with the ptomaines, the animal alkaloids, which depress the temperature. If no membrane, or but very slight membrane, has been formed, the latter cause does not obtain. If the ptomaines, however, are depressing the temperature, the toxæmic symptoms, instead of ameliorating, become more pronounced, and it is inconceivable that a clinician of experience should confound this familiar picture with that seen twenty-four hours after the injection of antitoxine.

Another great advantage in the use of pilocarpine is that its action may be instantaneously interrupted by a hypodermic of atropia, if so desired. In case of cardiac, or respiratory failure, strychnia would be indicated. However, I must say that I have never had the slightest occasion to employ an antidote, using it, as I do, only during the first twenty-four hours, or, at the most, four days, of the disease. It might be suggested that more rapid immunization of animals by toxines could be obtained by the simultaneous use of pilocarpine, analogously to its experimental use in animals injected with serpent venom.

It is very important that we should obtain a true estimate of the value of antitoxine—what it will not do, as well as what it will do—and so be able to fill the gaps which it leaves in treatment. If pilocarpine obviates the dangers and lessens the severity of the sequelæ of the first twenty-four hours of the disease. strychnia is, to my mind, incom-

parably the most important adjuvant of antitoxine in the later stages. Antitoxine does nothing to forestall the dangers from diphtheritic paralysis, as I believe these are determined before the antitoxine takes effect. Perhaps I might modify this statement by saying that it does, by shortening the period of exposure of the highly organized structures to the withering touch of the toxines, and by establishing immediate convalescence, thus inaugurating the period of repair so much earlier, still many cases of death from paralysis occur during convalescence, after the serum treatment.

The modes of death during and after diphtheria might be enumerated as follows: Profound toxæmia, initial convulsions, cardiac paralysis, cardiac thrombosis, paralysis of the muscles of deglutition and consequent incontinence of the stomach, anuria, nephritis, suffocation, or by membrane exfoliated from the fauces, from diphtheria of the respiratory tract, broncho-pneumonia, epistaxis, diphtheria of the intestinal tract with perforation, suppuration of the joints, suppurative adenitis, purpura hæmorrhagica. Judging from experience, we must admit that most of these modes of death are still possible.

Anuria is a symptom still to be dreaded. If due to nephritis, the case is almost hopeless. If due to paralysis of the vaso-motor nerves of the kidneys,* the same treatment is indicated as that given for other post-diphtheritic paralyses, namely strychnia in full doses. I have learned of several hopeful cases, after antitoxine treatment, which were lost from this sequela.

The most frequent cause of death, toxæmia, is abolished by the use of the serum and pilocarpine, unless it be in cases of mixed infection, which prove refractory to both. We hope much from the promised serum from animals im-

*It is true that section of the renal nerves causes increased flow of urine, and that section of the splanchnics will have the same effect to a slight extent. Paresis, however, of the splanchnic nerves, together with the exceedingly enfeebled cardiac action that follows diphtheria, undoubtedly lowers the blood pressure to that point where filtration becomes impossible.

munized both to the diphtheria bacillus and the streptococcus. Death by suffocation should occur no more if the case be seen before the diphtheria has become tracheal. Laryngeal stenosis can be relieved by intubation. Broncho-pneumonia is invariably found to be caused by a double infection, and therefore is not amenable entirely to the serum treatment. Epistaxis, after serum treatment, is, in my experience, of very common occurrence, although very amenable to treatment. In all cases of nasal diphtheria, I provide the attendants with feathers and Monsell's solution, and direct them, in case of hæmorrhage, to push a sterilized feather, saturated with the diluted solution, far back into the nose, cut it off, and leave it there. This procedure has never failed in my experience, either before or after the introduction of the serum treatment. However, a sharp rise of temperature follows each hæmorrhage, due, no doubt, to renewed infection other than that by the bacillus of diphtheria.

I would say here that I have found no advantage in forcibly detaching the membrane from the throat, as it reforms, although it never attains to any considerable thickness. An exception must be made in those cases where the fauces are so blocked as to interfere seriously with respiration and deglutition. Hæmorrhagic diphtheria is almost invariably fatal under any treatment; but if the symptoms have not occurred before the action of the antitoxine, they are not likely to occur after. One case of recovery under the use of antitoxine, has been recorded.

Dr. Kuhn gave me the particulars of a case seen on the second day of the disease, in which alarming anasarca had already developed. The patient died within two or three days from this very early nephritis.

I have seen only one case of nephritis after serum treatment. This was in consultation with Dr. Gorin, at the city hospital. Death occurred within two or three weeks from the onset of the diphtheria. Albuminuria is the rule in severe cases, since, as well as before, the introduction of the serum treatment. Careful microscopic examination, in a

large number of cases, made by myself and Dr. Chapman, has established the absence of nephritis in all our cases.

Cardiac paralysis claims many victims still; the danger begins as early as the fifth day, and does not cease before the sixth week.

Some years ago, I was called upon to treat a young lady about the tenth day of diphtheria, in whom heart-failure had set in. The onset occurred in this way: Suddenly the pulse vanished, respiration ceased, and the patient's countenance assumed the appearance of death; but within a minute, perhaps, the pulse returned as abruptly as it had ceased, the face became suffused, and slight clonic spasms supervened. I remained with the patient for twenty-four hours, as these attacks recurred frequently, and their duration became longer. Artificial respiration each time restored the patient to life, and at the end of that time the heart's action ceased to intermit.

What struck me most was the fact that the violent exertions that the patient would make in her unconscious condition, after each paroxysm, seemed rather to exhilarate the heart than to depress it. Since that time, I have treated post-diphtheritic cardiac failure not only by hypodermics of strychnia and caffein (digitalis, in my experience, is utterly useless), and nitroglycerine upon the tongue, but by energetic efforts to arouse the patient to put forth some voluntary exertion. The danger seems to be due to the heart going to sleep, and the indication to be to arouse it to action. I directed the attendants to watch every change of color, and not to allow the patient to sleep more than an bour at a time, putting a drop of nitro-glycerine on the tongue, and if the danger seems imminent, to puncture the skin with a needle. Where death seemed to be impending, I have observed a little patient's pulse return with full force from the pain of the puncture of the skin before the contents of the hypodermic syringe had been delivered and the color return to the face, whilst the child screamed loudly.

The only case of recovery after superventiou of heart failure, accompanied by persistent vomiting, which I have ever seen, occurred in my practice lately under this treatment. The antitoxin 4000 units had been used thirty-six

hours after the onset of a most malignant type of diphtheria. Symptoms of heart failure occurred on the fifth day, just after the separation of huge membranes.

In this case, albuminuria persisted for several days, but there was no renal insufficiency or nephritis. In consultation with Dr Born, I have seen a case of progressive paralysis, which died in the seventh week. We were told that two bottles of Behring No. 2 were used in the early treatment of the case. In this case the urine was abundant and absolutely normal, and the heart's action well sustained, but death was due to incontinence of the stomach and respiratory paralysis. The muscles of the larynx and the diaphragm were paralyzed; and although the action of the diaphragm was restored by the heroic use of strychnia hypodermically, deglutition was impossible, and Dr. Born's efforts to feed the patient with the stomach-tube were nullified by the patulous condition of the œsophagus. Large quantities of mucus, which threatened to suffocate the patient, could only be ejected by lowering the head and chest, and the contents of the stomach ran out at the same time; death was from exhaustion. This case, I believe, might easily have been saved by the timely use of strychnia in the beginning of convalescence.

Twenty years ago, the lamented Dabney reported two fatal cases of *peritonitis from diphtheria*, and Lennox Brown reports a post-mortem of one such case which showed diphtheria of the intestines, causing perforation. The early use of antitoxine would certainly forestall any such complication as this. As to the suppurative troubles, antitoxine can not be expected to prevent them altogether, seeing that they are due to a double infection.

I have seen two or three cases of death in the convalescent stage from what I considered to be *heart clot*, before the introduction of the serum treatment. The symptoms were tumultuous action of the heart, the heart sounds being indistinguishable, the pulse exceedingly rapid and feeble, the dyspnœa agonizing. In one case there was uncontrollable vomiting, just as we find in beginning cardiac

paralysis. Nothing, however, but the occurrence of embolism would establish the diagnosis of cardiac thrombosis. This mode of death might still obtain after the serum treatment.

Another cause of death must be noticed—*suffocation by detached, or partially detached membrane* from the fauces. In a case seen in consultation with Dr. Auler, we discussed the question of immediate intubation for the relief of the urgent dyspnœa, but discovered on closer examination that the trouble was due to a large piece of detached membrane in the fauces adherent by one end, which would drop into the larynx.

This case had been treated with antitoxine and pilocarpine. In fact, since both antitoxine and pilocarpine favor the early exfoliation of the membranes, instead of their tardy disintegration, the danger of suffocation in both laryngeal and faucial diphtheria is increased under their use.

[In young infants, the uvula, elongated and weighed down with membrane, will sometimes interfere seriously with respiration.]

I have employed *four kinds of serum*—the Gibier, Mulford, Behring, and Ravold. In only one case have I seen total failure to accomplish any good, where the patient lived long enough to show the well-known effects of the serum. This was a case seen in consultation with Dr. T. A. Martin, and although 75 c. c. of the serum was administered in successive injections, no deviation from the usual history of the course of the disease was observed. This serum was some sent me from the Pasteur Institute, in New York, the last of November, 1894, and was used in the last week in December. Twenty-five c. c. of the same shipment had been used in the early part of December in a case seen with Dr. C. H. Dixon, with excellent effect. In another case, that of Stella J., æt. 15, the insufficiency of small injections was shown. The onset was fulminant, toxæmia alarming, and the local development of the disease rapid. Fifteen c. c. Gibier, injected on the first day exercised no influence whatever upon the spread of the membrane. Twenty

hours later, one bottle of Behring, No. 3, was given. Forty-eight hours after the first injection, we gave two bottles of Behring, No. 3, and 25 c. c. of Gibier. On the morning of the third day, for the first time, the effects of the antitoxine were observed in the checking of the spread of the membrane, the diminution of the glandular swelling, and the convalescent feeling of the patient. On that day 30 c. c. Gibier and 20 c. c. Mulford were administered, and on the fourth day of the disease, 20 c. c. Mulford. From what we know now, these later injections were entirely uncalled for, but were administered in our alarm from the failure of the first two injections. My firm conviction is that no less than 1,500 or 2,000 units should be given in any case, except that of an infant, and this at the earliest possible moment, and no more afterwards, unless the following twelve hours show the case to be one of greater severity than was supposed, when 2,000 units more should be given. In many of our cases 4,000 units were given at the first injection, and no second dose given. In a very severe case, seen with Dr. Lippe, we gave 68 c. c. of the Gibier four and a half days after the onset of the disease. Twenty hours later the normal secretions of the nose and mouth were re-established, the temperature and pulse reduced, fœtor of the breath diminished, and the patient was feeling much better; twelve hours later the swollen cervical glands were rapidly vanishing. No second injection was given in this case, but strychnia and iron were diligently administered; albuminuria was very slight and transient.

I have seen nothing to warn me of the danger of sudden death which has been reported as occurring from the injection of the antitoxine. In the case of an infant of eighteen months, seen with Dr. Lemoine, death occurred from convulsions twelve hours after the injection. The case was one of laryngeal diphtheria, which had lasted for two days, dyspnœa being extreme. The introduction of the O'Dwyer's tube was followed by relief, after the expulsion of large quantities of mucus, but the symptoms pointed to cerebral involvement. The pupils were unequal, the eyes turned

upward, consciousness did not return, even after the breathing became perfectly easy, the temperature was 104°, and pulse 160. There were no signs of broncho-pneumonia, and everything pointed to a fatal termination from the long-continued passive congestion of the brain by toxic blood. We gave an unfavorable prognosis. Twenty-five c. c. Gibier were injected. This would no doubt be chronicled by the enemies of antitoxine as a death from its use.

In a case seen with Dr. W. A. McCandless on the second day of the disease, we injected a bottle of Behring, No. 3, and at the same time gave a doubtful prognosis to the mother, because the child had a temperature of 104°, pulse 160, twitchings of the face, oscillations of the eye-balls, and was very apathetic. We cautioned the mother that convulsions were imminent, and that they would be due to the disease, and not to the serum. As there was no laryngeal involvement, however, we injected pilocarpine hypodermically, and left a quantity, to be given hourly, unless the patient was freely salivated. The next morning the temperature was 101°, and all the threatening symptoms had vanished; by the afternoon the temperature was nearly normal, and the patient was eating bread and butter with a relish. The antitoxine was injected at 1 o'clock at night, so that the immediate favorable effects were due to the pilocarpine, and not to the antitoxine. Had we omitted the pilocarpine, this patient would most likely have perished in convulsions, and furnished a column of startling news to the daily papers.

It would seem that *intubation* should now unquestionably be the first choice in laryngeal diphtheria, while tracheotomy should be reserved for those cases where one skilled in the operation is not at hand, and for tracheal diphtheria. The chief danger after intubation is that from obstruction of the tube by loosened membranes around the glottis. Descent of the membrane is invariably prevented by sufficient antitoxine. Theoretically, this danger is averted by leaving the string attached to the tube, but in my experience children chew off the string. In every case after intubation or tracheotomy, if we would insure perfect safety, the patient should have a physician in constant attendance, or else be removed to a hospital. For a few hours after the removal of the O'Dwyer tube the patient should be watched,

because of the danger from swelling of the glottis. In a case in the practice of Dr. Chapman, the tube was removed four times in eighteen days, but each time the stenosis became alarming in from one-half hour to two hours. I advised the substitution of an aluminum tube, and had one made for the purpose, in order to give the glottis relief from the pressure of the heavy tube; before the completion of this tube, however, Dr. Chapman had substituted a heavy tube having a somewhat different conformation of the head, and on the removal of this, there was no further trouble. I cannot see why aluminum tubes cannot be substituted frequently for the heavy tubes, for I believe they would be sufficiently self-retaining, and would only be coughed up with greater ease, when obstructed. The fact that the patient is inclined with the head downwards in feeding, without the heavy tube becoming displaced, shows that gravity is not necessary for its retention, and certainly the gain to the tissues from the lighter pressure would be great.

All antitoxines are good, but their varying potency is shown by the greater or less promptitude of their action. The time varies from eighteen to thirty-six hours in my experience, and the effect once manifested is not lost. The *carbolated serum is open to the objection* that carbolic acid is very toxic, and the dose must be carefully calculated on the basis of the amount of carbolic acid it contains. The serum preserved with trikresol I prefer, because of its uniform action, its keeping qualities, and above all, because trikresol seems to be inocuous to the kidneys in any reasonable dose. An infant of one month at the Bethesda Foundling Asylum, received in twenty-four hours three, and at the City Hospital, to which it was sent, twelve c. c. of serum, containing nearly three-fourths grain of trikresol, without the slightest detriment to the integrity, or function, of the kidneys. This amount of carbolic acid would have been a dangerous dose.

My observation leads me to believe that many cases are lost from *insufficient dosage.* A single bottle of Behring No. 2 is too small a dose for an adult, or for a severe case in a

child. I know of one case occurring in a middle-aged man, in which a bottle of Behring No. 2 was used, without the slightest effect, the membrane invading not only the throat, but the whole mouth, and persisting for an unusually long time.

In some mild cases, treated early, no local applications were used. In all cases, however, treated by us, in which there was any considerable development of membrane, peroxide of hydrogen [Marchand] was used, with boroglyceride, or, preferably, borolyptol; or else, Löeffler's toluol solution. The local treatment I consider especially important as a preventive of coccus infection, and to retard the putrefaction of the membrane, with consequent alkaloidal poisoning of the system. Stimulants were used according to the indications furnished by the case—due regard being had to the function of the kidneys. As long as albuminuria persisted, animal diet was forbidden, except in rare cases, when the child refused milk, and there was no other alternative possible.

1526 *Mississippi Avenue.*

DISCUSSION.

Dr. W. C. Glasgow.—The first case of diphtheria in which I saw the antitoxic serum employed converted me to its use. This case was one of laryngeal, tracheal, and bronchial diphtheria, with recovery, whereas under the old treatment all these cases were fatal. The membrane came away in pultaceous masses, which blocked the tube, and which is very dangerous. This is one of the dangers from the use of antitoxine, which I have not seen mentioned in literature. I have noticed, in many cases, a protracted convalescence. Has the antitoxic serum anything to do with the tardy convalescence? I have seen a greater number of cases of paralysis, some very marked; especially one where there was paralysis of the cervical muscles, a kind of paralysis which I never observed before the use of the serum. Are these paralyses caused by the serum? I would like to raise the question of the reliability of the bacteriological diagnosis of the disease. Can we always depend upon the results of a bacteriological examination to establish the presence of diphtheria?

Dr. P. G. Robinson stated that he had only used the sorum in two cases, which recovered. Convalescence was protracted in both cases. He still considered the question of the use of antitoxine sub judice. He doubted the reliability of the bacteriological diagnosis of the disease.

The bacteriologists present, Drs. Ravold, Rohlfing, and Given Campbell, all stated that in 95 per cent. of the cases in which the Klebs-Lœffler bacillus was found, they proved to be true diphtheria. Dr. Campbell urged the use of the cover-glass examination as saving much valuable time in the diagnosis.

Dr. Boisliniere had found that frequently the Board of Health reported the Klebs-Löeffler bacillus when no clinical diphtheria existed; still, he placed a high value upon the assistance afforded by the bacteriological department of the Board of Health.

Dr. Wolfner reported that he had seen fewer cases of paralysis of the eye-muscles during this last epidemic than in the former epidemics in this city, and believed that it was attributable to the beneficent effects of the antitoxine treatment.

Dr. Spencer reported having seen an increased number of cases of membranous rhinitis over former years, and reported one case in particular, which was followed by a membranous laryngitis some weeks later, and by a severe case of diphtheria in another member of the same family.

Dr. Jones said that he had had no deaths in his practice since the use of the antitoxine.

Dr. Barbee reported favorably upon the use of the antitoxine. He had lost one case from suffocation by the rapid separation of the membrane, after the beginning of the antitoxine convalescence.

Dr. Dixon called attention to an article published in the *New York Medical Journal*, an abstract of an article by Sziklai, in which the use of pilocarpine was advocated as an immunizing agent against diphtheria, as well as a curative agent. He also reported a case in which the posterior cervical muscles were involved, before the antitoxine treatment came into vogue.

Dr. Perkins expressed the view that we saw more of the tardy convalescences and of paralyses, because there were more children living after diphtheria since the antitoxine treatment.

Dr. Saunders closed the discussion. In support of the position taken by Dr. Ravold, bacteriologist to the St. Louis

Board of Health, that the virulent bacillus may exist in the throat of individuals presenting no clinical evidence of diphtheria, he recited the case of Frank P , who introduced the disease into the Episcopal Orphans' Home, and yet showed no clinical evidence of the disease whatever.

The cultures from his throat produced a virulent bacillus which killed a guinea pig in the usual time. He concurred fully in the opinion expressed by Dr. Perkins In closing, he stated that he did not wish to be understood as advocating the serum treatment in a half-hearted way. Since November, 1894, he had never gone to bed without using the antitoxine in any case which he conscientiously thought might be diphtheria. He had used large doses, much larger than those usually recommended, and at the earliest possible moment, and had had no deaths in cases under his immediate care from the beginning. This experience of fourteen months covers the period of the recent epidemic, in which the death-rate in the city from diphtheria reached over 100 per month; in every previous epidemic, he had had deaths to record.

Art. VII.—A Contribution to the Treatment of Diphtheria

By CHARLES G. CANNADAY, M. D., of Roanoke, Va.,

Physician in Charge fo Rebekah Sanitarium, Roanoke, Va.

As considerable diphtheria has prevailed throughout the country during the past season, I offer the following suggestions as to treatment of this formidable affection, after having tried them thoroughly for more than four years. I have never tried antitoxine, for the reason that this line of treatment has given all I could desire as to results.

I have treated, and seen in consultation, many bad cases during the above period (none *in extremis* when first seen), and have yet to see a fatal case when this line of treatment had been carefully followed. Of course, in far advanced cases, and in those who could not be induced to take the medicine, this, like all other lines, would fail to effect a cure.

Moreover, there must be a clear-cut diagnosis—no mistaking erysipelas, membranous croup and various forms of

laryngitis and tonsillitis, as well as œdema of the larynx; for such a condition of affairs would not call for the enormous doses of the medical agent chiefly relied on to combat a toxic agent in the system.

Only one disease may be confounded with diphtheria and this line of treatment still be effective, and that is *scarlatina*, for in other conditions, save scarlatina and diphtheria, this line of treatment may be dangerous.

When Klebs, in 1883, and Löffler, of Grieswald, in 1884, discovered the bacillus of diphtheria—(owing to the difference as to priority of discovery), what is better known as the Klebs-Löffler bacillus—one of the most valuable of all discoveries as to treatment was at once made apparent. Welch, Abbott, Babes, of Bucharest, and others, have proven that the bacilli occur in groups on the outer surface of the false membrane, and the underlayer, which is rich in cells; but in the deepest layer of fibrin, which rests upon the mucous membrane, no bacilli are found. The bacilli, after forming ptomaines which are absorbed by the lymphatics and blood vessels, produce toxic symptoms. It seems to be the most hearty and long-lived of all the various microbes, as well as the most virulent.

Treatment.—The hygiene of the sick-room is, of course, most important. During my last visit to Berlin, I had the pleasure to visit and carefully inspect the "Institut fur Infections Krankheiten" (Koch's Charitie), built by the Government at a great expense and turned over to Prof. Koch. The walls and building and furniture and equipments comprise the most perfect modern ideas as to antisepsis, disinfection, and isolation. The ventilation and heating systems are most excellent, certainly not equalled in the world. The nursing is admirable. Without entering farther into detail as to hygiene, owing to want of space, I will pass to *local treatment, which I regard as very necessary.*

Local applications in early stages are most beneficial as germicides and cleansing agents; and to allay irritations and dissolve false membrane, the writer sprays the throat with Marchand's peroxide of hydrogen, one to four of water,

every two hours. This cleanses the throat and disinfects the entire pharynx, and at the same time can be used *ad libitum* with no fear of toxic symptoms. It can be freely used through each nostril to disinfect the nares. If the child is much rebellious, wrap it in blankets, and with rubber tube give the medicine through the nostrils.

I have tried trypsalin as a digestant of the diphtheritic membrane, and find it to be beneficial. It must be blown on the membranes, using a glass tube for the same.

As to food, I give large quantities of liquid beef peptonoids and milk, and from one to four tablespoonfuls of brandy, every four hours, in proportion to severity of case. Internally, I give from 15 to 30 drops of muriate tinct. iron every four hours.

Now I come to the drug I regard as most effectual of all others. It is the most powerful disinfectant known, and, unlike corros. chloride of mercury, is not affected adversely by albumen. It is *bromine*, as recommended by Prof. Wm. H. Thompson, of New York.

℞.—Smith's sol. bromine, 1, 2, 3, 4, and even up to 8 gtts. every hour in severe cases (for child two years old), taken in a little sweetened water. Moreover, it is well first to touch the affected part of the throat well with a soft brush wet (used only one time) in pure Smith's sol. bromine, and then to spray the throat well with a mixture of bromine in water, say 2 gtts. to one-half ounce of water every 4 hours, alternated with Marchand's peroxide of hydrogen.

In severe cases, I have given 8 drops of bromine—i. e., one-half teaspoonful of Smith's solution every three or four hours, without any toxic effects.

The formula for preparing the Smith's solution is as follows: ℞.—Sat. sol. bromide potas. ℥ij. Add to this slowly with constant stirring bromine ℥j. Then add very slowly water ℥j. Four drops of this contains one drop of pure bromine.

This bromine treatment is tolerated in diphtheria as none else has ever been in my hands. I have never noted any gastritis, laryngitis, or bronchitis, from its use. True, the

fumes are very irritating to the patient for some time; but they reach every nook and recess of the respiratory passages, "decomposing hydrogen compounds, forming bromohydric acids, precipitating or separating the element associated with hydrogen." Hence, we have an excellent deodorizer and disinfectant. Commenced early, I feel sure that equal results can be obtained with this plan to any other line of treatment; and in my hands it has far excelled any other.

112½ *Jefferson Street.*

Art. VIII.—Lecture before the Training School of Nurses at the Home for the Sick.

By JOHN HERBERT CLAIBORNE, A. M., M. D., Petersburg, Va.,

Ex-President and Honorary Fellow of Medical Society of Virginia, etc.

The professional female nurse, though comparatively a new idea, is not an outcome or an evolution from the new woman. Only one who has "renounced the world, the flesh and the Devil" (and the new woman has not) can, with grace and cheerfulness, give her days to patient waiting at the bedside of the sick, and her nights to weary watchings in the dim chamber, where death is ever knocking at the door. Such, I take it, is not the new woman. Your beautiful prototype—and your Patron Saint—repudiated in the inception of her career, all desire to assume the position, and the promise of a man, or any wish to wear his nether garments.

Florence Nightingale, the founder of your guild, was not a new woman. She was a young woman, well born, educated and attractive; but moved by the spirit of the Master and filled with the enthusiasm of humanity, she was willing to lay aside the endearments of home-life, the tawdry embellishments of fashion, and the wooings of tender passion of love, throwing them all off—as one of these beautiful trees around you throws down the green glories to battle with the winter's glories—so she threw them all aside, to go into the

hospitals and camps and trenches of the English army, at the siege of Sebastopol, in the inhospitable climate of the Crimea. With the courage, endurance and administrative ability of a man, she blended the zeal, the love, the tenderness of a woman—doing such wonders in the way of succoring the sick and wounded, that her name was emblazoned in letters of gold in every record of that terrible campaign—demonstrating there the fitness, the place and the inestimable worth of woman, as a nurse, even in military hospitals. She returned to England, at the close of the war, to give credit and character and position to the office of nurse, and to invite and to win to her holy calling many a young woman who, if they have not achieved her fame, yet in their lives of love and patience, and self-denial, and good works, have written their record on high; and many have heard, and some are still waiting, who shall certainly hear, those blessed words, worth more than fame or gain, or gold: "I was sick, and ye visited me," and "inasmuch as ye did it unto the least of these, my brethren, ye did it unto me."

I have thought it well, young ladies, to speak to you first, before going into the practical details of nursing, of what I conceive to be the true office of the nurse, and to call your attention to the spirit that should actuate her in undertaking her ordinary, and often the thankless, labours. Remember, that you must not expect to sleep upon a bed of roses—when you sleep at all; but in all of your lonely watchings there will be One with you whose eye never closes in slumber, and in all your weariness there will be one strong arm above you that never tires.

And now, 1st. One of the duties of a nurse is to *see that the doctor's prescriptions and the doctor's directions are fully and promptly executed.* As a subaltern in military command, it is not hers to question or to criticise, but hers to obey. Contingencies may arise, in the absence of the doctor, which may make it necessary, in her opinion, to deviate from instructions, but that opinion must be based upon experience and good judgment, and must be exercised with rare discretion. In such cases it is always best, if possible,

to communicate with the doctor before taking any action. Nor must she criticise the doctor's course, or the doctor's treatment, before the patient or before any one else. He, alone, is responsible for the results of either. He, alone, has knowledge of the facts and conditions upon which his conduct is based. He must find in you not only a ready and trustful help, but a faithful and loyal friend. When he is present, you are his hands. When he is absent, you are his eyes and ears. To all others your lips must be locked. To him there is nothing that you should not reveal.

2. To the sick, she must *be patient, gentle, and sympathetic*—not giving the maudlin sympathy of tears and lamentations, but that strong and healthy sympathy born of love, and prompting to considerate and rational efforts to relieve. Inspire them, by your own courage, to be brave in the face of danger, and show them, by your fortitude, how to bear pain. But do not be light and jesting, in the presence of peril; levity is not becoming at the bedside, however humble the occupant, when the great grim shadow of death is threatening to shut out the sunlight forever. But let your manner be composed, confident, cheerful, giving the impression of the presence, at least, of human help, and the assurance, to the patient, that he shall not be left unaided in his brave struggle for life.

With the hysterical, the hypochondriacal and the chronic invalid of slight ailment, you may sometimes indulge in a laugh and a jest; but remember, that, even with them, what you know often to be amazing and unreal, is a living belief, so near akin to the actual, as to give all of its pains and to threaten all of its perils. Their trouble is often as pitiable as if their delusions were veritable truth. A better manner with all sick is a quiet, composed cheerful demeanor. In your conversation with them, let your words be few, and wise, and invite but little talk from them. You have heard it said, that speech was silver, and silence golden. This was never truer anywhere, than in the sick room. There is no place where it is more difficult to know what to say. A word too many may worry or fatigue. A word too much,

of news or gossip, may irritate or excite. Nor can the patient talk to any extent without weariness or exhaustion. Talking on the part of the sick is a labor and waste of strength, which might otherwise be preserved. In my many years of practice I have encountered all sorts of difficulty in my efforts to relieve and to cure the sick; but no difficulties have been greater than those which have arisen from the kindly-meant, but ill-advised, visits of friends. Sunday is the day for all such Good Samaritans to turn out and fill the Scripture injunction—to visit the sick—and Monday is the day for all sorts of worry and disappointment on the part of the doctor, who cannot understand why his patients should be worse. The nurse must stand at the door of the chamber, as a faithful sentinel, and see that none enter its sacred precincts without the pass word and countersign of the doctor. It may be a mother, or a sister, or a brother knocking for entrance, and clamoring for just a moment's interview. You must know neither mother nor sister, nor brother, nor husband, nor friend. The doctor's word must be your law and guidance and, until he speaks, the door must remain closed. You will often give offense; that, you must not deviate from the path of duty, to consider. Throw the weight of responsibility upon him. His shoulders should be broad enough to bear it, or he should resign his office to a stronger man.

And now, as to the *room of the sick.* See that your patients shall have as good air, and as fresh air to breathe in their rooms as that which they would get if out of doors—in the same locality. Of course you cannot make or control the weather or climate out of doors, but however this may be, by night or by day, the outside air, it is better than that which is found in the patients' rooms. Even the breath of the well, throwing off from the lungs with every expiration, volumes of the most deadly gas—carbonic acid—and the exhalations from the bodies of the well, however cleanly, each person throwing off from their body from two to three pounds every day of dead matter—matter as dead as any corpse—will poison and corrupt the atmosphere of a close

room; and how much more so the breath of the sick, and the effluvia from the secretions of the sick? Any one of you who ever entered a close room, where, with closed doors and buttoned windows, a half dozen people have spent the night, can testify to the noisome smell which greets the nostrils, and dispels the thought of breakfast. This exists in greater or less degree, according to the number of occupants; and their condition in every room, where the air from without does not circulate within. This is the first step towards keeping your patient's chamber sweet and clean. There should be a full supply in every room of the air that circulates out of doors. Not of the air which circulates through the passages and halls—that air has been corrupted by the breath of passers by, by the exhalations from slops and excreta carried through them, by the odors from food and physic, by the odors from the kitchen, etc. You cannot ventilate the rooms, therefore, by opening doors which lead into halls and passages. You will understand now the old adage, that "doors were made to shut;" and another, "windows were made to open." With an open window, and an open fire-place, or even without an open fire-place, it takes only a few minutes to renew the whole body of air in a room. And there are few days or few nights in any climate in which you will be called to nurse when you cannot resort to this expedient. Cover up your patient closely with abundance of warm clothes, see that the bed is not in a draught, (it is not apt to be if you keep the door of the room shut), and the patient will not be chilled or take cold. Certainly once, and may be twice, in twenty-four hours, this process should be resorted to.

In this hospital in which you are now serving, these instructions are not so urgent as in some others to which you may go. When you go out as nurses in private houses you will see and feel their great importance. In this Home, with its large, airy rooms, never crowded, you do not probably appreciate what I now say, but remember it—you will have use for it some day.

Now, about the patients' room. This should be tidied—

once, twice, thrice a day if necessary; and at this point the trained female nurse is in her peculiar sphere. Not one man in twenty knows what tidying means. He will leave a towel on the bed, and a glass on the bureau, and a spoon on the table, and a vial of medicine on the mantelpiece, or will displace anything that he can, and will leave it so.

The trained nurse will see that there is neither box, bandbox, pill-box, nor package, nor any other plunder of any sort, not absolutely necessary for constant use, kept in the room. And she will have a place for everything necessary to be kept, and she will keep it in place. And if it be medicine, or instruments, or appliances of any sort, she will find some unconspicuous place where the patient will not continually have his or her eye upon it, and be reminded of its unpleasantness. For the patient's eye she will keep in view when possible some pleasant picture, or vase, or flowers—something pretty and cheerful. Happy surroundings are a wonderful help to heal The regular distribution of flowers amongst the large hospitals of some of our Northern cities has become quite a labor of love with many charitable people whose means enable them to do so. Few people, however plain or even rude in manner or depraved in life, but who are intensely moved by the beauty and fragrance of flowers. Some have imagined that the exhalations from flowers were hurtful in a sick room. Just the reverse—freshly cut flowers, and growing flowers and plants, breathe themselves the atmosphere of the sick room, and appropriating the noxious, carbonic gases which defile it, fix them as paints into their beautiful colors, and give back in their place to the surrounding air, the health-inspiring oxygen which the sick so much need. Do not be afraid to carry fresh flowers into the sick room whenever you can get them.

And now, in the further care of the sick room, let us take up a subject not so pleasant—*the utensils of the sick room.* In the first place, these should be as few as possible compatible with the necessity of the patient, and they should be of porcelain or tin, or of some non-absorbent ware of some sort that can be kept bright and clean. A wooden bucket

in a sick room is an intolerable nuisance; and a slop-tin or slop-bucket of any sort kept there is a standing danger and temptation. If you keep a slop-bucket, you will be tempted to put slops in it, and to leave them for a more convenient season for removal. If a slop must be made, a slop must be removed, incontinently and immediately. And of the chamber utensils for the reception of the discharges from the patient's body—they should invariably have a tightly-fitting cover, to be placed immediately over them after usage, and then they should be—emptied into a slop-bucket? Never, never, never. They should be carried at once to the sink or water-closet. I once heard of a nurse saying that that was the one thing she drew the line at and would not do; that it was not the nurse's business. Well! If it were always practicable to have some one in place, assigned to this duty, I should not blame her: but that is often, as you have doubtless discovered, impracticable, and a nurse who would be too high strung to undertake any necessary office of the sick room has mistaken her calling. She had better get married, and try that.

The Care of the Bed and Clothes of the Patient.—If you will recall what I said a few moments ago—that each person lost daily by perspiration sensible or insensible, from the body, two to three pounds of matter—effete matter—matter that, having performed its proper office in supplying the needs of the body, is thrown off as dead matter—you will see the necessity for the great care to be exercised in changing the bed linen and the clothes next to the person of the sick. This dead matter is confined more or less closely in the meshes or in the material of the clothing next to the person of the sick, and of course, to some extent, in the coverings of the bed next to the patient's person.

Every day, if the condition of the sick—that is, if they are not too sick to be subjected to the fatigue of the change—these garments and these bed clothes should be removed and aired, an extra set of clothes and covering being kept to alternate with, provided the wardrobe of the patient and

the wardrobe of the hospital will warrant it. There should be in every hospital an airing and drying-room for this purpose Clothing coming in from the wash should be subjected to the same treatment. Where there is an open fire-place and open fire in the patient's room, they may be utilized for the same purpose to some extent; though you must remember that not all of the exhalations from the clothes will escape up the chimney in the draught, but some will return to the room to be re-inhaled by its occupants.

I might say someting in reference to *the personal habits and hygiene of the nurse herself.* In some other places, it might be a proper subject. In this instance, when I see the neat, natty uniforms of the corps of nurses here, their white hands and clean and well kept nails, I am reminded that nothing more is necessary—I cannot improve on the subject.

In reference to the *use of disinfectants*, the nurse must understand, that the various articles which are often introduced into the sick room for the purpose of killing the offensive odors that sometimes prevail, are of no real benefit, except that of substituting one smell for another, and filling the room with vapors. They compel the opening of the windows and the introduction of the much needed air from without. The true disinfectant is something which destroys, or is designed to destroy, the microbe or the bacillus of the disease with which the patient is affected. In consumption, for instance, the microbes are found in the sputa or the expectoration from the lungs. In such cases, the cuspidor, or the receptacle of any sort, in which the sputa is received, should be disinfected several times in twenty-four hours. In typhoid fever, cholera, etc., the microbes are lodged in the discharges from the bowels, and the receptacles into which these are passed should be always immediately disinfected. Then there are certain diseases, as small-pox, measles, scarlet fever, and possibly diphtheria, in which the contagion comes from the touch of the patient or from the touch of his garments, or his bed-clothes, or in some more

obscure way—through the atmosphere of the room, in which the sick are confined. In these instances, the disinfectants must be in the form of some article which can be be used on the persons of the sick, as well as on the persons of those who attend them, or which can be vaporized throughout the atmosphere of the room.

Now, the nurse is supposed to be disinfecting the sick room of a patient with consumption, or fever, or cholera. What shall she do? First, She must remember that all disinfectants are poisons, and that they are used as poisons to destroy the microbes or low forms of life, whether animal or vegetable (?) which propagate disease, and that, as poisons, they should be used with care and with intelligence; otherwise, that which kills the microbe may kill patient or nurse. That which may be sauce for the one may be sauce for the other. In waiting on a patient with pulmonary consumption, see that the sputa are received on small pieces of rag or paper and burned immediately. This will always be effective in a room with an open fire. Do not attempt it under other circumstances. After the sputa has dried on rag or paper, or on whatever it may have fallen, it is more dangerous than ever. If it cannot be thrown at once into the fire, then receive it in an earthen-ware vessel, into which you should put, twice a day, a pint of water, having first added to the pint one teaspoonful of a solution, made by dissolving two drachms of corrosive sublimate, two drachms of muriate ammonia (sal ammoniac), with two drachms of muriatic acid, in 4 ounces of water, or rose water, if you wish to have a more elegant preparation. This may also be used to disinfect the discharges from the bowels of patients with cholera or typhoid fever. Solutions of permanganate of potash, two drachms to the pint of water, may be used for the same purposes; but this has the disadvantage of staining anything with which it comes in contact.

When, from the number of patients to be cared for, it is necessary to have larger quantities of disinfectants, Standard Solutions, No. 1 and No. 2, as recommended by the New York Board of Health, are both convenient and effective.

The first is composed of carbolic acid (pure), six ounces, glycerine, six ounces, and one gallon of hot water. This makes a 5 per cent. solution, approximately. The second is composed of one drachm of corrosive sublimate and one drachm of chloride of ammonia in one gallon of water. This must not be kept in any metallic vessel, of course, as chemical changes will occur, destroying its value. When these solutions are used for disinfecting discharges, five times as much fluid must be used as the amount of discharges contained in the vessel. The parts of the patient's person which may be soiled by discharges, as well as the hands of the nurses, may be washed first in solution No. 1, diluted with an equal part of hot water, and then in hot soap-suds.

But you may be nursing a case of small-pox or scarlet fever, or measles, or some similar disease, in which the mode by which the contagion is propagated or dispensed is not so clearly understood. What means shall you resort to in those cases? Here the disease is disseminated, to some extent, through the atmosphere, and, if with closed doors and battened windows, you could loose the fumes of sulphurous and chlorine gas in the room you would soon destroy the germs. An atmosphere fully charged with either of these gases, however, would be as fatal to the patient and to yourself as the flying germs. Here you must resort to the ventilation referred to before and keep the air within the room as nearly as possible pure as that without. You can aid, probably, in the destruction of the germs, by placing shallow vessels, of large surface, as dishes, in different portions of the room, containing chloride of lime; or you may hang about the room sheets, soaked in a solution of carbolic acid, say Standard Solution No. 1.

Sometimes the fumes of a mixture of equal parts of spts. turpentine, creosote, oil of eucalyptus, and oil of cinnamon, are disseminated through the room by means of heat. You can extemporize a nebulizer for this purpose by placing them in a tea-kettle, and the kettle on an oil or gas stove. Platt's chloride and several other proprietary articles are useful as articles of disinfection about a sick room, but their

worth are not, as a general thing, commensurate with their cost. In disinfecting the clothes of the patient and the bed clothes, nothing is better or cheaper than boiling water or steam. No microbe can live an hour under a heat of 212 degrees (Fahr.).

For disinfecting the rooms of the sick after being vacated, you can recall the foregoing instructions. Besides, in such cases you can often resort to chlorine and sulphurous acid gases. These are inconvenient often, however, and impracticable even in empty rooms.

A better way is to scour floors, doors, windows, and all wood work, and the walls, if of hard finish, with standard solution No. 2. If the walls are of soft finish, they may be whitewashed with solution of chloride of lime.

Art. IX.—Appendicitis Half a Century Ago—Painful Tumor near the Cæcum—(Seven Cases Reported.)

Contributed by E. H. JUDKINS, L. L. B., M. D., of Baltimore, Md.

Member Medical and Chirurgical Faculty of Maryland; Maine Medical Association; Medico-Legal Society of New York; American Medical Association, etc.

The seventeen cases of chronic appendicitis, reported in the *Virginia Medical Monthly* for December, 1895, by your distinguished surgeon, Dr. Hunter McGuire, were of great interest, as the results of the best modern practice and methods; and because, at the time the magazine was received, I was reading upon a similar subject from an old book.*

The symptoms and treatment for slight appendicular troubles (not requiring a surgeon), in the experience of these two noted doctors, make the extracts from the older writer, who did not know the disease, *by name*, or our advanced surgical work for appendicitis, but who did know, by prac-

* *Letters to a Young Physician just Entering upon Practice*, by James Jackson, M. D., LL. D., Professor Emeritus of the Theory and Practice of Physic in the University at Cambridge; Late Physician in the Massachusetts General Hospital, etc., Boston, 1855. Extract from Letter XIII, Page 247, *et seq.*

tical observation, that point of tenderness now called McBurney's—of much historical interest to practitioners.

There is another disease, in which the cæcum may be suspected to take a part, which is not extremely rare; and, yet, so far as I know, it has not been distinctly described. I will attempt the description, but may not be successful; for there is great variety in the severity and in all the circumstances of the cases, which I include under this head. It came to my knowledge, gradually, in a group with other diseases in the same vicinity. After I had been led to distinguish it from the others, I could look back and find that I had seen it before.

In my earlier years I noticed, as others have done, that in peritonitis the inflammation was greatest on the right side of the abdomen, and in the lowest half of it. Let me call this lower half the *iliac quarter*, for its extends somewhat beyond what is called the iliac region. Subsequently, I found that this quarter was also the seat of other diseases, oftener than the corresponding part on the left side. I may mention painful affections and tumors of different sorts, which I met with more on the right side than on the left. At length, within the last fifteen years, perhaps, I got to distinguish the particular disease, which I wish now to make known to you; I must give a name to this affection, as it is inconvenient to get on without one; therefore, in the present state of our knowledge, I will denominate it *a painful tumor near the cæcum.*

I will state some cases of it, before giving a general description. There is something in common to these cases, while they differ in extent, violence and duration.

Case I.—A young lady, when absent from home in the spring of the year, took cold, as she said. She became quite sick, and had much trouble in the stomach and bowels for two or three weeks. She did not get quite well, and the same symptoms returned more than once after she came home.

It became a question, whether she had a partial peritonitis, and, at any rate, there was suffering in the right iliac quarter. An attack took place again in the summer, when

she was some distance from home. This was more obstinate than the earlier ones, and confined her to her bed, At this period the case was described to me, and I asked if there was not a little tumor in the right iliac quarter. Her physician was very careful and thoughtful; he said he had examined the part complained of, and believed there was not any such tumor. He was not, however, then acquainted with the disease. Soon after this I visited the lady, and detected the tumor. It did not lie superficially, so that it was not felt in passing the hand over the abdomen; but it was perceived at once on pressing the fingers down to some little depth.

It was at the *point* where a horizontal line, drawn from the anterior-superior spinous process of one ilium to that of the other, crosses the outer edge of the right rectus muscle. (This is the exact spot where Dr. McGuire begins to operate.—*Virginia Medical Monthly*, December, 1895, page 892.) It was in shape rather oval than round, and flattened, and was larger than an almond; somewhat movable, and so tender to the touch that the patient winced, or cried out, every time that I pressed on it. The pressure did not, however, cause extreme pain. I found it at once, because I had before learned where and how to feel for it; otherwise, I might have missed it. The patient had now been sick for two or three weeks, her symptoms varying much in severity. The principal complaint was, a pain in the right side of the abdomen, and more in the lower than in the upper part of that side. With this, her appetite was quite lost at times, but not constantly. She had frequent attacks of the pain, with some febrile symptoms. They were attributed to the food she took, to the exertions she made when feeling better, and to a deficiency in the alvine discharges. Laxatives afforded her great relief for a time, but a frequent repetition of them was necessary. She remained in a tender state for several weeks, so as to delay her return home, and it was necessary to remove her with peculiar care. At home, she soon recovered strength to move about, but for many months she had occasional attacks of the disease. As this was now understood, it was arrested by evacuations of the bowels, a few leeches and, perhaps, a small blister, with bodily rest and abstinence. Within a year from her first attack she became quite well, and eight or ten years have now passed without any return of the malady.

I have seen cases more severe than this, and some much

more mild and shorter. Of the last description, is the following:

CASE II.—In 1849, H. M., a woman between 30 and 40, complained to me of pain on the right side of the abdomen. She had had it for two or three weeks, and felt less able to attend to her business than usual, yet had not relinquished it entirely, as a domestic. She could assign no cause for the pain. On examination, I found a tumor much like that in the preceding case, and in the same situation. She was not aware that there was any tumor, or that any was suspected, but she complained at the moment when I touched it, and did not acknowledge any like tenderness upon pressure in any other part of the abdomen. The pain, however, extended beyond its seat, particularly above it. She had one symptom, which I have never known in any other case. This was pain in the iliac quarter when sitting down and on rising from her chair. It was not a severe pain. There was not any strongly-marked constitutional affection, though she felt less well than usual.

The remedies employed were cathartics, leeches twice and blisters twice over the seat of the tumor. Under the use of these she grew better, but at the end of a fortnight the tumor could still be felt. I then ordered an ointment of iodine and hydriodate of potass. to be applied over it, and, under the use of this, she got quite well within two or three weeks. Whether the ointment helped it is uncertain, but, in respect to the benefit of the other remedies, I felt no doubt, as manifest relief followed each one of them. In this case the tumor could be covered entirely by a half dollar. She has not had any return of the disease.

CASE III.—It was, I believe, at an earlier date that I saw Mr. B., a young gentleman, in consultation, who had acute pain in the abdomen, somewhat of the character of colic pain. It was severe, and he was on his bed. I saw him, I think, on the second day of the attack, and was told that he had a similar affection not many weeks previous. On examination, I found distinct tenderness at the spot before described, but there was very little, if any, tumor. By remedies like those used in the last case he was soon relieved entirely. I inquired, from time to time, afterwards, and found that he had not had a third attack.

(It is stated that its recurrence was probably prevented by the use of the remedies.)

CASE IV.—The patient, Mr. R., was past middle life, a

business man, of active habits, and of a distinctly nervous temperament. He had been sick much of the time in bed, for two or three months before I was called to him in consultation. He had a large tumor, two inches in diameter, which came under the spot before described, but laid nearer the surface than either the others, and felt as if extending deeper. In other words, it was thicker than the others. It was painful and tender to the touch. There were febrile symptoms, which had been varying from time to time. The digestive apparatus was all wrong. He was so sick that his life was considered in danger. Leeches and vesication had decidedly good effects as regarded pain and soreness, and the size of the tumor was lessened somewhat under the use of them. Strong cathartics, acting freely, afforded him great relief, so that he never felt as if he had enough. The quantity of fæces was very large, more than his food seemed to account for. The evacuations never caused any marked change in the swelling, as if an accumulation in the intestine had taken place. For awhile he gained in strength and spirits, took food well, and the tumor became smaller. But when he had been sick five or six months a new trouble came on. This was insanity, and occasioned his removal from town, and I saw no more of him. This occurred ten or more years ago, and I believe he is still living with his mind deranged. So far as I have been able to learn the first disease has never been troublesome, and probably it has subsided. There was nothing to show that the two diseases were connected, except that one followed the other. (He could not have been studying the literature of appendicular troubles; and the fear of a surgeon operating for appendicitis had not distracted him!)

Case V.—A young physician, Dr H., had been engaged in unwonted labor three or four months before his sickness, which occurred in the summer of 1846. When I first saw him he was on his bed, prostrated, with a very bad and anxious countenance, modified in expression by opium, which he had been taking freely; skin hot, pulse hard and frequent. His abdomen was very hard, painful and tender. His worst pain was in the *right iliac quarter*, and I found there a tumor in the usual place, of which he was not aware. This was very tender to the touch; a silver dollar would about cover it. He says: "The disease commenced, I think, about twelve days before you saw me. At that time, while driving out of town in the evening, and through some low ground, after leaving a very hot room, I became

much chilled. It was not merely a sensation of coldness, but a distinct rigor, the affect lasting several hours. This was followed in a day or two by the tenderness of the abdomen, continually increasing, so that for several days before I saw you the motion of the vehicle over the pavement caused me great pain. On Saturday, the pain and tenderness were constant, and it seemed as if I cound count every stone I rode over. At night, I took laudanum very freely, but the agony was such I could not remain in bed, and walking about the room, I continued the laudanum through the night, but do not think much of it was retained; at all events it did not produce sleep, nor at all mitigate the pain. On Sunday morning, I went out as usual, but the motion was so painful I could not allow the horse to go beyond a walk. After seeing a few patients I felt that I could do no more. I then got some leeches and went home to apply them; but finding that I was growing worse, sent for you soon afterwards. At this time my abdomen was very hard all over, my face, as I saw in the glass, of a dark, purplish color, my breathing very short, labored and painful; in fact, I thought I was dying. You immediately opened a vein. The blood at first was very thick; it looked to me like tar, but it soon came to move freely, and ran a good stream; this you allowed it to do until I was faint. The relief as to the pain and dyspnœa was decided and immediate. You then directed twenty leeches to be applied to the abdomen (I had previously applied a few), and in the evening you and Dr. Bigelow advised a repetition of the bleeding, and I believe about as much blood was taken as in the morning. No blister was applied over the abdomen then; but some time after you directed a succession of them to be applied over the hard bunch, which appeared in the right iliac region, to promote absorption. This bunch disappeared quite slowly, and it was a number of weeks before the tenderness, which followed it, was gone. During my convalescence I had repeated attacks of pain, resembling colic, but have never had any since, nor has there ever seemed to be any obstruction or difficulty in the bowels since that time, although it took me more than a year to recover my strength. Previous to your seeing me the action of the bowels was regular.

This case differs from all others I have seen in violent acute symptoms; it caused me to fear general peritonitis and a fatal result. Though its violence was overcome, the

disease continued for a long time. Colics occurred, as stated by Dr. H., and the tumor remained always somewhat tender, and at times painful. The suffering was increased by food, if taken in more than the most moderate quantity, even when the appetite was sufficient, and the whole disease much abated. Fruit and acescent articles were especially hurtful to him. His feelings led him to a constant desire for full purgatives. As in other cases of the kind, the relief from them was decided, though not of long duration; and the discharges were always more copious than could have been expected from the quantity of food taken. I do not remember any disease in which I have noticed this peculiarity so strongly marked, except organic affections of the liver.

Since this letter was written a friend has very kindly handed me two cases which he observed during the last year. I had had a conversation with him on the subject, and that led him to take special note of these cases.

Two cases observed by Francis Minot, M. D.—Pain in the abdomen, with active febrile disturbance.—Relief after leeches and purgatives.—Tumor in the ileo-cæcal region, remaining after convalescence.

CASE.—A little girl, aged eleven years, who had generally enjoyed good health, became ill on Sunday, October 8, 1854, without known cause. She felt chilly, lost her appetite, and was inclined to lie on the sofa all day. She went to school the two following days, though not feeling well. On the tenth, she had great pain in the abdomen, accompanied by vomiting and followed by an evacuation of the bowels, the first since the seventh, though they had previously been perfectly regular. I found her on the tenth, in bed. The face was flushed, pulse, 110, and tongue slightly coated. She complained of severe pain in the abdomen, referred to the right side, and occurring in paroxysms about once an hour, leaving her comparatively free in the intervals. She could lie only on her back; the least motion, and even drawing a long breath, also caused pain. The abdomen was moderately full and resonant. On the right side it was very sensitive to pressure, the tenderness being excessive in the iliac region. A cathartic of calomel and jalap was ordered. Before it operated, the patient had a

sharp rigor, followed by heat and perspiration. After the enema she had a large, solid dejection. She derived great comfort from a fomentation of spongiopiline, and got some sleep after taking opiates. On the twelfth, her general condition was about the same. She lay with her legs drawn up, and supported by pillows, the slightest motion causing pain. The face was pale, and expressive of much suffering, but not anxious. Skin of natural temperature; tongue covered with a thin, brownish, pasty coat; breath, foul; pulse, 112, rather hard; respiration, 20, easy; thirst, headache. The abdomen was extremely tender throughout the right side, but mostly so in front of the anterior-superior spine of the ilium. Considerable fulness above and in front of the same point was evident to the eye. Four leeches were applied to the seat of pain, immediately after which there was great relief. In the evening she was able to move her limbs a little.

On the thirteenth, I found a smooth, round tumor feeling like an egg, just in front of the spine of the ilium. On account of its tenderness, it could not be freely examined. In the course of the day, she had a very copious spontaneous dejection, the first part of which consisted of hard, dry lumps, the remainder being soft. She also passed much wind. After this, the general condition was much improved. The pulse fell from 106 to 90. The tenderness, except over the tumor, was greatly diminished. The next day I was able to examine with more exactness, and made the following record:

Its centre appears to be two inches from the ilium, on the right side, on a line drawn through the two superior spinous processes. It is globular and smooth. Its limits cannot be exactly felt, as the examination gives considerable pain. The patient had two abundant dejections, after medicines in the course of the day, and was altogether better in the evening. On the fifteenth day, the tumor is noted as being about "two inches long by one broad." On the twentieth I recorded as follows: "She has been well since the last visit (seventeenth), and has not been confined to the house. The tumor is felt deep beneath the surface, feeling like a horse-chesnut, and of about the same size, almost entirely free from tenderness. She recovered perfectly, but I cannot say whether the tumor ultimately disappeared.

Pain and tenderness, with a deep-seated tumor in the ileo-cæcal region, with slight febrile symptoms.—Convalescence in four days.

CASE.—Married woman, aged about forty, was confined for the eighth time on July 21, 1854. Nothing unusual occurred during the labor or convalescence. During the night of the third and fourth of September she was attacked with severe pain in the abdomen, which was increased when she lay on the left side. No cause could be ascribed for this attack, unless too much exertion in lifting her children. On the morning of the fourth she was in bed, pulse 96; tongue nearly clean; skin of natural temperature; no headache, nor pain in the back or limbs; no chill; had no dejection for three days, except a slight one yesterday. Decubitus dorsal. Every movement of the body was painful, and she could not lie on her right side. Abdomen moderately tympanitic, everywhere soft and tender, except in the neighborhood of the spine of the ilium, on the right side, where it was extremely tender for the space of four inches square. A smooth, globular tumor was felt in the same place. It was a few inches in diameter, lay very deep beneath the surface, and was very sensitive to the touch. In the course of the day, pulse rose to 120. (Six leeches to seat of pain. Castor oil, followed by enema.)

September 5.—The patient experienced great relief after the application of the leeches. She had four dejections. Is now free from pain, and pulse much better. Pulse 88, tongue moist, some appetite, no thirst. The tenderness of the abdomen has much diminished, but the tumor is with difficulty felt on account of its depth.

September 7.—Feels quite well and free from pain. Is still in bed. Bowels free. Tumor cannot be distinctly felt.

September 8.—Sitting up. Free from pain and tenderness.

The cases which I have related differ from each other in their severity and duration, and in many important details. If I could recall all I have seen, this would be more fully exemplified. I have not seen one case of the disease which has proved fatal; so that no examination, *post mortem*, has enlightened me upon its seat and particular characteristics.

What, now, are the symptoms common to these cases, and which may be regarded as essential to this disease? They are pain in the *right iliac quarter*, but not confined to this,

for it often pases beyond the limits of this quarter, particularly upward; and a tumor, varying in size, so deep-seated in the abdomen as not to be felt without some direct pressure on the part, more or less tender, sometimes very tender. The tumor is to be felt near the outer edge of the right rectus muscle of the abdomen, where this is drawn horizontally from the anterior-superior spinous process of the right ilium. It must not be understood that the centre of the tumor is to be found exactly under the angle formed by the lines above mentioned—only that some part of the tumor lies under it. This may not be mathematically correct, but I believe that the indurated body will always be found, when the fingers are pressed down as near to this angle as one would come in an examination of this sort. Constitutional affections attend this disease in some stages of it, but they vary much in severity, as also does its duration vary. I may add, as a characteristic of this painful tumor near the cæcum, that purgatives give so much relief that the patient is always anxious for them. Perhaps it may be true of all diseases in which the cæcum and colon are concerned, that the patient has a strong desire for something to relieve those intestines from the fæcal matter detained in them.

I have mentioned the cæcum as the organ affected in this disease, but I have not shown that this is true. We must now consider what is the organ affected; in which of its coats, or tissues, the affection is seated; and what is the nature of the affection. I cannot answer these questions with an assurance of being right. I have supposed that the cæcum was the organ affected, that the disease was seated on or in its serous coat, and this disease was an inflammation. There are, however, great objections to this supposition; it is upheld mostly on the ground that there are greater objections to any other. In talking with my medical friends, none more satisfactory has been suggested to me. If there were absorbent glands, lacteal or lymphatic, in the situation of the disease, the explanation would be easy.

I think that it will be readily admitted, that in the cases I have related the tumor is formed by the process of inflammation. The part is painful and tender, often very tender. Unless in case of Mr. B., I have never seen the disease at its very beginning; and if that was the same as the others, it subsided so soon as not to enlighten us upon its nature. In all others the tumor has enlarged and diminished gradually, as might happen to phlegmon not passsing on to suppuration. It does not, however, come within our notion of a phlegmon, if, as I believe, it never terminates in suppuration. The tumor has never subsided suddenly so as justify a suspicion that it has discharged pus into the intestine, or elsewhere. Nor have I ever found it to subside, or to be diminished, suddenly after a purgative, as might happen if a fæcal mass had been confined in the cæcum. Indeed, the feeling of the tumor does not resemble that of an accumulation of fæces, such as I have sometimes met with. It accords better, though not exactly with, an enlarged lymphatic gland. It might be supposed that it occupies, or extends through, all the coats of the cæcum. But then it would be such an obstacle to any contraction of that organ as to cause great pain at the time; so that the patient would get to have a great dread of cathartics, even though they might be followed by relief. But, as I have said, the patient is always, or very often, anxious for cathartics. Can there be a suppurative process on the mucous membrane of the cæcum, and is the tumor in any way a secondary affection? I have seen such a disease of the cæcum, and had no hesitation in deciding what it was. The case proved fatal, and fully confirmed my diagnosis. The symptoms were very different from those I have stated as belonging to this painful tumor.

M. M. Dupuytren and Grisolles, of Paris, and I believe, some other French writers, have given an account of phlegmon and abscess in the *iliac fossæ*. A slight knowledge of these diseases, especially the name employed by Grisolles (tumuers phlegmoneuses des fossæ illignes), might lead one to think the affections to be the same; but it is not so. I am

acquainted with those phlegmons, most common in the puerperal state, but seen in other states. I have been consulted about one, in a man, since I have been engaged in writing these letters. Those phlegmons always suppurate, as is particularly shown by M. Grisolles, and as my limited experience confirms. I first became acquainted with this disease in examining a woman *post mortem* at our almshouse, more than fifty years ago. That case was so remarkable in one point I will diverge from my path to put it on record. The abscess contained more than a gill of pus. There was involved in it lying in this bed of pus, a portion of the external iliac vein. Where this vein passed through the parieties of the abscess, at both its upper and lower part, the vessel was clogged up by coagulated lymph, showing that the adhesive inflammation (in Mr. Hunter's language) has taken place within the vein, as it had in the surrounding cellular membrane. But, further, between these two portions of lymph suppuration had taken place *within the vein.* The pus in the vein was somewhat colored by blood, but not so much as to leave any doubt as to its character. The case had been a slow one probably. The subject of it was an abandoned woman, who had been brought to the house in an exhausted condition. You observe that the peculiarity of the case was that the vein was insulated in the cavity of the abscess, and had gone through the same processes as the surrounding parts, without having had any opening, by which it had communicated with them. On a young admirer of John Hunter, as I was, this case, illustrating his description of the different processes of inflammation, so distinctly made an impression which has not been effaced by time.

I have stated more than once that suppuration has not occurred in any case of this painful tumor near the cæcum. On saying this lately to an ingenious and learned friend, to whom I had been speaking of this disease, he asked the following question: "May not your disease have been typhlo-enteritis; and may it not be that in the cases, which did not terminate fatally, the nature of the affection was not

discovered?" I replied to him that since the first case I saw of typhlo-enteritis, I have not seen one, which has been proved to be so, that I did not recognize at once; that this disease occurs mostly in children, though not in them solely; that its symptoms are usually, within the first few days, much more violent than those in my cases at so early a period; that vomiting is, I believe, among the early and obstinate symptoms in typhlo-enteritis, while in my cases it is much less remarkable, though it occurred in some of them. To this I should add that the little tumor felt in typhlo-enteritis is, I think, to be found somewhat lower, and not so near to the median line as the tumor I have described. I submit all this for consideration, with the hope that others will be able to explain the disease I have thus brought to notice, more perfectly than I can do.

Then follows treatment, which is but a repetition of that given heretofore, in the seven cases presented, and is very similar to the medical measures recommended by Dr. McGuire on pages 886 and 891 of his article.

It is remarkable that a disease, then unknown, should be so accurately described and definitely located, as well as treated, without knowing just what it was, or its anatomical seat. But then morbid anatomy and modern pathology were also almost—if not quite—unknown; and that blind-ended, worm-like "death-trap"—as popularly called—known now to us as the vermiform appendix, springing from the lower back part of the cæcum, and held coiled upon itself, was also equally unknown to the anatomists—not even an "exploratory operation" having enlightened the world with an idea of that now common inflammation, "appendicitis." Still, we suppose that some of the lay brethren wish that it was yet unknown by name, and to surgical skill, and that the medicinal treatment suggested by Dr. Jackson, and so successfully used, was more adhered to instead of that routine "itch for operation," which is the popular "fad" of the hour among our surgeons of the profession. Conservative surgery is fast settling what cases should be subject to operation. The odium of operating for the mere sake of it, and

the reward, either in money or experience, or to boast of the number of cases, etc., does not attach to our profession, except occasionally among outsiders, by our "over-doing the thing," as is sometimes suggested. We may err in judgment, but not intentionally. The members of the medical profession, as a class, are among the most honorable of any people in the world; but it sometimes happens that doctors of inexperience like to say: "I have had such cases, and performed such operations." That is laudable, to be up with the times. Let us cultivate ambition, and along with it conservatism of action. Finally, as to appendicitis: In some cases, action and operation is the only resort. Let us try to recognize these cases, and act at once, with a good surgeon.

Art. X.—Vaginal Fixation of the Uterus.*

By J. WESLEY BOVEE, M. D., of Washington, D. C.,

Professor of Gynæcology, National University, etc.

One of the most perplexing questions to gynæcologists has been the treatment of backward displacements of the uterus. No doubt some uncomplicated cases require no treatment. Many of them are probably congenital. In fact, the normal position of the uterus is a matter that has received a great deal of consideration, and is still *sub-judice.*

But let any of the exciting causes of pelvic inflammation be set at work, and the backward displaced uterus handicaps the patient. If congestion of the uterus, or of its inner coat alone, lead to endometritis, we have at once a condition that is liable to be considerably worse before improvement is obtained. A catarrhal discharge, or may be aseptic one, pent up in the uterus, will usually cause uterine contractions (nature's effort to cleanse the wounded tissue), or perhaps a leakage into the Fallopian tubes, or less often,

* Read before the Medical and Surgical Society of the District of Columbia, February 10th, 1896.

absorption by the lymphatics, pelvic cellulitis resulting. If the uterine discharge pass into the tubes, some form of tubal inflammation occurs, and in many cases leakage into the peritoneal cavity is an additional complication. The uterine fundus in Douglas' pouch usually has with it prolapsed appendages and the leakage usually gives rise to pelvic exudates with adhesions. Sometimes only the ovaries and fimbriated ends of the tubes are involved, and again the disease is more extensive. The uterus alone is frequently fastened down, though my experience has led me to believe this to be not the usual condition. With the uterus retained permanently in an upright position, we can readily produce cures of the cases by appropriate treatment to the endometrium and appendages.

It will be noticed I am not considering those cases entirely due to relaxed vaginal walls, or to imperfect perinei, for such do not require fixation of the uterus. I wish to confine this paper to those cases needing some form of fixation, or, if you please, suspension of the uterus.

The different methods for fixing the uterus anteriorly are legion—reminding us of the many different ones for hernia and for varicocele, attesting the imperfection of every method in use. The Alexander-Adams operation of shortening the round ligaments outside the peritoneum; Wylie's and Polk's for shortening them within the peritoneal cavity, and Kelly's "suspensio-uteri," or hysteropexy, are the principal ones from above. They have their advantages and disadvantages. Then through the vagina: operations for shortening the utero-sacral ligaments, thus pulling the uterus backward, which, assuming the broad ligaments to be in a fixed position, would throw the free fundus forward. Schucking passed a threaded needle through the anterior wall of the uterus down into the anterior vaginal wall, tying this suture and thus fixing the uterus forward.

Of the many other methods I wish to call your attention to, that named for Mackenrodt, which, by the modifications of Duhrssen and others, seems to be the most rational of all these. It is done as follows: Place the woman in the Si-

mon's position, and, with a perineal retractor, expose the surface which is grasped with a vulsellum and pulled downward and forward. An ordinary dissecting forceps grasps the anterior vaginal wall half way between the cervix and the urethral orifice. By means of these fixations the tissues between them are rendered tense, and an incision is made from the cervix forward, in the median line, about an inch in length. Another incision, of about the same length, the middle of which meets the end of the first, is made close to the cervix. These two incisions, when carried through the vaginal wall to the bladder, make two angular flaps, which are reflected. The bladder is lifted upward and forward, and three sutures are inserted, care being necessary that the vaginal flaps, the sub-vesicular cellular tissue and the body of the uterus, slightly above the internal os, are included in the first suture. If we consider the anterior walls of the uterus and vagina as two sides of a triangle, then each suture would represent a third side of it. Of course, as each suture is inserted in a new place, three different triangles are represented, that of the first suture being the largest. These three sutures are inserted nearly parallel to each other, and are then tied in the same order as their insertion. If necessary, superficial ones are used. It is often necessary to depress the cervix, and push it backward, to properly insert the deep sutures. Curettage, trachelorrhaphy and perineorrhaphy, may, one or all, be necessary, and if so, should be done rapidly at the same sitting. The operations on the uterus should precede the fixation, and perineal operations follow it. If adhesions to the uterus, or its appendages, are present, the peritoneal cavity should be entered between the uterus and bladder, and by traction on the fundus it is brought forward, while a finger sweeps around back of it to free it and the appendages. If necessary, they may be brought into view for inspection, and treated as seems expedient.

The principal advantage of this method over the abdominal operations, for this purpose, is that for a free uterus and appendages, the peritoneal cavity is not entered. This

method, like others, has its disadvantages, the greatest being its complication to labor. About 10 per cent. of the women have children subsequently, and 15 per cent. of the labors are difficult, *per se.* That is, more than 1 per cent. of the cases operated upon have difficult labor. (Duhrssen.) Graffe (*Monatschr. f. Geburtsh. u. Gyn.*, No. 6, 1895, page 473), says that Velde was obliged to do a Porro operation for a transverse presentation in a child, in a case of pregnancy, complicated by vaginal fixation and rupture of the uterus, and that both mother and child perished. Graffe also had a case of vaginal complicating labor in which the presentation was transverse and external version was impossible. Eclampsia ensued, and the labor was terminated by Cæsarean section, the mother surviving. Strassmann reported a case in which the cervix was drawn up above the promontory and a diverticulum of the anterior wall of the uterus projected into the vagina. Version and delivery were performed with difficulty.

Among 207 cases of vaginal fixation operated by Duhrssen, twenty have had children. Of these, 3, or 15 per cent., had difficult labor.

This seems a gloomy record, but what better is recorded of hysteropexy, or suspensio-uteri? We very frequently learn of the same difficulties complicating that operation, and, in many cases, too, abortion seems to be a direct result. Leon, Laroyenne, and the greater number of French surgeons that have adopted abdominal hysteropexy, have shown that pregnancy following that operation is usually, in turn, followed by abortion (*N. Y. Polyclinic* 1896, VII., 27). Its employment, like the others, is not wholly satisfactory. It may be said of that operation, as of the one under consideration, that it does not fail to hold the uterus forward.

I have little confidence in the Alexander-Adams operation, and were it not for the danger incident to the exposure of the peritoneum, shortening of the round ligaments within the peritoneal cavity would be, usually, my

method of relieving this class of cases. But as vaginal fixation, by the method considered in this paper, seems less dangerous, I feel that it is deserving of our further consideration. Vineberg, Wiggin, and Pryor, of New York, are very successful with it, and I trust their results will stand the test of time and experience.

1404 *H Street.*

Art XI.—The Treatment of Tuberculosis with the Anti-Tubercle Serum.*

By FRANK T. CHAMBERLIN, M. D., of Washington, D. C.

The object of this paper is not to go into an inexhaustible resumé of the field of anti-tubercle serum. The product of each manufacturer has its merits and differs in strength or units similar to the antitoxine of diphtheria. Hence, it would have been necessary to have made personal experimentation with each and all, from a standpoint of immunization, probably of the pig. As yet, the time since the first endeavors of Richet and Hericourt, of France; Prof. Maraglino, of Italy; Babes, of Hungary, and Paquin, of America, (not to mention the "Richmonds in the field," or fight against the main destroyer of the human race at the present day), has not been sufficient, even were one using tubercle serum alone with the idea of saying which was the best and which to recommend.

There is one point, however, which I think we can say definitely, and that is that *with a strong serum one can undoubtedly combat tuberculosis.*

I do not necessarily mean from the above, that we can take an old case with mixed infections, with almost total loss of lung tissue, and have as a result a complete cure; but I do mean that in cases not too far advanced, and where the mixed infection is not too prominently represented, I believe that the serum treatment represents at the present time

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* Read at a meeting of the Medical and Surgical Society of the District of Columbia, February 10, 1896.

a sheet anchor that promises better results than any and all other forms of treatment combined. From my small experience in the use of the *serum* of the mule and the horse, I have noted a wide difference, not only in the strength of the serum made by different manufacturers, but also a difference in the strength of the same serum in different samples, as well as a different effect from the same samples used on the same individuals at different times. The difference in the strength of serums in a great measure would, of course, denote their value in their antagonism to the bacillus tuberculosis.

The difference in the strength of different samples from the same manufacturer may be accounted for by the difference in the animal producing the same from the standpoint of his susceptibility to the original culture. The difference in effect upon the same patient at different times, using the same sample of serum, may be accounted for by mixed infection, or, perhaps, the temporary residence in the system of the other germs. In part, the other difference can and will eventually be overcome by scientific research and care in selection of the animals used, which will result in giving us a serum of a known strength in effect upon the human economy. But to prevent a fraudulent manufacturing of worthless *serums* will require a check by law, and I think, from what we know on the subject, taken as a whole, that the sooner medical societies interest themselves with this object in view, the greater will be the advance in these lines of treatment, and the greater the protection to human life.

The applicatian of the treatment to a given case of tuberculosis depends upon the conditions before named, and too much care cannot be exercised as to the time of injection, the situation, temperature of the patient, modes of life, and the size of the dose. The other ordinary methods of treatment, as a rule, can be continued independent of the serum injections.

My time is too limited to go into full details as to the symptoms, etc., of each individual case of the fifteen treated by me up to this time. Suffice it to say, that the microscope

gave negative results in all except one—examinations made by Dr. Kinyoun and others. The family history of several gave from one to three deaths from tuberculosis.

Husband and wife both affected in one instance. Ages of cases from 16 to 35 years. Ten of the cases were of ordinary type, seven males and three females, non-complicated first and second stages. Two of above gave previous history of slight hæmorrhages.

All of above have improved under treatment, and have gained in weight from two to ten pounds in from one to two months. Two of the fifteen were complicated with tuberculosis of the larynx; one has made marked improvement; the other is at present at Thomasville, Ga., and undergoing the same treatment with a continuation of improvement.

One case was of severe hæmoptysis, having four occurrences in four days before the treatment was commenced. The amount of blood lost was at least four pints; there was improvement immediately after treatment.

One, a case of third stage, under treatment for past six months, rapidly declining until November 11th, 1895, when *serum* treatment was commenced, the dry product first being used. The apex of left lung gave a point of consolidation equal to the size of a hand, with several small vomicæ; the rest of lungs involved. Temperature ranged as high as 104°; heavy night sweats—uncontrollable by any other method, the Pharmacopœia being exhausted for same.

Night-sweats have been controlled from the start, and has only recurred when *serum* has been discontinued on account of too much re-action.

A case of mixed infection, and substantiating the claims spoken of in the early part of paper. This case would, in my opinion, have been, ere this, under the ground were it not for the treatment In the last three months, he has about held his own, and, at the time of this writing, I am rather favorably inclined as to the possibilities. He has, at least, a new lease of life, whether for months or longer. Only one bad effect of serum other than excessive re-action and symptoms accompanying same, as previously spoken of,

was noticed in this case—that was severe seizure, immediately after injection, of pain radiating through abdomen and up the spine—so severe as to almost cause syncope, which passed off in about two minutes.

In the case referred to as not giving negative results under the microscope, *diplococci* and *streptococci* were found in abundance. A mouse was inoculated by Dr. Kinyoun, but gave no results. The examination of chest gave undoubted signs of phthisis, as regards apices and scattered points; cough had been persistent for several months; and the general physique of the patient would almost give a diagnosis. Weight, 95 pounds; *serum* treatment begun; all symptoms have changed, and the patient is substantially rid of cough and feels in every way improved.

Two of my cases showed a slight amount of albumin in urine; it was not increased by injection. Urticaria has occurred in two of the above named cases, in one of which it comes on about every third or fourth injection. Rheumatic pains, with slight swelling of joints, has occurred several times, but whether owing to conditions of atmosphere, diathesis, or the injection, I am unable to say. Pain, swelling, itching and soreness occasionally occur at the site of injection, but I have found decrease of its liability with an increase of aseptic precautions.

226 *New Jersey Avenue, S. E.*

The Medical Society of the District of Columbia,

At its meeting on January 6, 1896, elected the following officers: *President*, Dr. Samuel C. Busey; *Vice-Presidents*, Drs. J. W. Bovee and J. H. Bryan; *Recording Secretary*, Dr. S. S. Adams; *Corresponding Secretary*, Dr. T. C. Smith; *Librarian*, Dr. E. L. Morgan; *Treasurer*, Dr. C. W. Franzoni; *Board of Examiners*, Drs. Kleinschmidt, G. N. Acker, W. S. Bowen, S. S. Adams, and G. C. Ober; *Board of Censors*, Drs. E. F. King, C. W. Richardson, and J. T. Winter.

Clinical Reports.

Report of a Perplexing Case of Typhoid Fever *

By WADE H. ATKINSON, M. D., Washington, D. C.

Miss B., white, 21 years; unmarried; stenographer and typewriter; first seen on October 8th. Four or five days previously she had a paronychia on right index finger lanced. The following family history was given: In this family are three girls. The two oldest visited Colonial Beach, and about two weeks after their return the younger was taken sick with malarial fever, which ran a course of three weeks; most of the time she was in bed. She responded to anti-malarial treatment. So positive was Dr. Woodson, who attended her, in his diagnosis, that he points to the fact, that she took solid food throughout her illness. I saw her the first week after being out and she did not have the appearance of a typhoid-fever convalescent. This girl was nursed by her older sister (my patient) through this attack, and, about this time, first noticed the tender place on her finger. This was about the fifth week after her return from Colonial Beach, before feeling so badly with her finger. Several days passed before medical advice was sought; during which time all her friends offered suggestions, and, of course, most of them were tried. Hot water, fat meat, numerous poultices, etc.; each had a turn, and even a druggist tried his hand, before Dr. Woodson saw this well-developed bone-felon.

The third sister, 12 years old, was also sick and presented herself for treatment at my first visit. I was sure she had malaria and put her on that treatment. She took food as she liked, and, after three or four days, was sent to the country, where she gained very rapidly, eating fruits, etc. This little patient did not visit Colonial Beach.

On *October* 10, I made my first visit, and found the patient in bed, with a temperature, $103\frac{2}{5}°$, partially delirious, large-beaded perspiration over face and neck, hand and arm painful, with a paronychia of palmar surface of right index finger, extending over middle half of finger. There was a large swelling, the size of a guinea egg, on dorsal surface of the hand, above the metacarpo-phalangeal joint of

* Read before the Medical and Surgical Society of the District of Columbia, January 13, 1896.

index finger. The corresponding palmar surface was also swollen and red. Pressure on either made heavy dark greenish pus drop from the opening previously made.

After washing and dressing the wound, I requested Dr. Ellison to meet me; administered chloroform (anæsthesia lasting just a moment) and made a free incision on the back and front of her hand, which communicated with the opening on the finger. Nearly half a pint of this dirty pus was washed away with bichloride wash, dressed with iodoform and bichloride gauze, and the patient put on treatment for septicæmia.

October 11—Temperature had fallen to 99°; pulse rapid and weak; patient restless, nervous and excited, with slight delirium, and did not care for nourishment.

October 12—No pus, wound dressed as was daily done, and it yielded to treatment, temperature remained about the same, delirium more marked, beaded perspiration, bowels moved every day, urine passed often and high colored, patient rested by short naps only, talked and screamed some, and passed a very bad night.

October 13—Temperature 102½° A. M., 102° P. M., delirium violent, talked and screamed and all symptoms of septicæmia exaggerated, passed urine and fæces in bed. In the afternoon Drs. James T. Young and Ellison in consultation. For one week the symptoms were daily those of wild delirium, screaming for an hour or more at a time, dropping off to sleep for about five minutes, waking with another scream, singing or talking rapidly and continuously. She often called out one word after another, repeating it two or three times, as for instance, Sugar! Sugar! Fire! Fire, Trees! Trees! etc., and although an extremely modest young lady, repeated most often words expressing filth connected with the person. Profuse perspiration, weak thready pulse, dry tongue, still passed fæces and urine in bed, and had no disposition to take food. Nothing would give us encouragement.

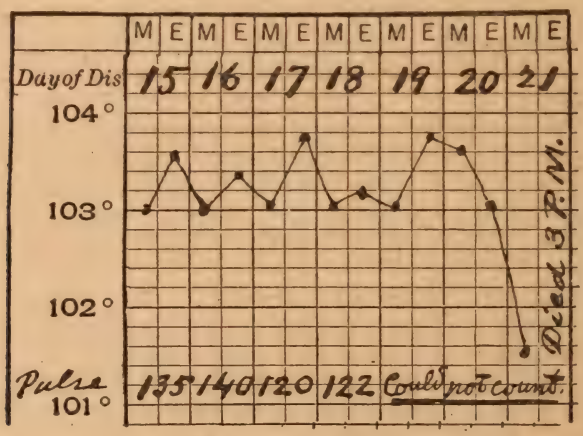
We tried hypodermics of morphine; a mixture of bromide, chloral, and camphor, and other sedatives with no result. Temperature was difficult to take, as the patient would not keep still long enough to take it properly without exciting her, which we tried to avoid as much as possible. Some nights two attendants could scarcely keep her in bed. During this period of the disease, the temperature was about 100° to 101° and occasionally 101½° but varied with no regularity whatever. About this time the heavy beaded

perspiration ceased a little, but the delirium was just as violent.

October 20—When we met in our daily consultation we found that during the night there had been several free movements from the bowels of dark blood and slime, and, although typhoid fever had been suggested by Dr. Ellison, we did not think it could be, until these hæmorrhages occurred, as the abdomen seemed to be in a normal condition at repeated examinations. No gurgling, no tenderness nor rose spots were present—in fact, no symptoms of typhoidal nature that could not be otherwise accounted for. No further doubt existing as to its being typhoid, and the disease was now beginning the third week of its course. From this time extra efforts were made to obtain an accurate temperature and pulse. The temperature varied very little, being 103° every forenoon for the following six days and 103° to 103$\frac{2}{5}$° in the afternoon. Then came a day with morning fever 103$\frac{4}{5}$° and in afternoon 103°. Pulse still quick and thready and about 150 when it could be counted. No further trouble from bowels.

October 27—This being the 21st day of the disease, patient gradually sank and died of exhauston in spite of all stimulants and nourishment that had been given her.

The following is the temperature and pulse chart:



We secured a post-mortem and found well established ulcers in the bowels, which confirmed our late diagnosis.

I have brought this case before you because it was a puz-

zling and an irregular case of typhoid. A typical case of typhoid fever is easy to diagnose and its treatment is a pleasure; but in a case like this, there is nothing but trouble, worry and discouragement to the physician.

707, 12*th St. N. W.*

Correspondence.

Protonuclein, both as the Treatment and Prophylactic of Diphtheria.

Mr. Editor: I have seen in the medical journals many articles on Nuclein therapy, and, being interested in the subject, I placed, during our recent epidemic of diphtheria, a number of patients on protonuclein, and send you a few notes regarding my experience with this treatment.

I was called to see three children, aged four, seven and nine, respectively. In each case I found diphtheritic membrane covering both tonsils, uvula, anterior and posterior nares, high temperature, rapid pulse. Ordered protonuclein tablets, one every three hours, and "protonuclein special powder" by insufflation every six hours; also ordered a gargle made of wild cherry bark and alum, four times a day, and passiflora to control the nervous symptoms. The cases made rapid improvement, and were dismissed on the eighth day. Other members of the family were placed on *protonuclein as a preventive,* and none contracted the disease.

Mr. H. Two children. Enlarged cervical glands, tonsils, uvula and back of pharynx covered with diphtheritic membrane; high temperature, great prostration. One child with croupy cough, pale and anemic. Ordered iron, gargle of wild cherry bark and alum, protonuclein tablets, one every two hours, and a solution of "protonuclein special" every four hours as a spray. The second day there was only a slight change, but on the third day there was decided improvement; the membrane loosened and came away in large pieces, and the cases were dismissed on the seventh day.

Miss C., age sixteen. Tonsils and back of pharynx cov-

ered with diphtheritic membrane extending into the posterior and anterior nares; tonsils greatly swollen, high fever, rapid pulse, headache, also pain in back and limbs. Ordered protonuclein tablets every three hours, and used the "Special" by insufflation, every six hours; also the gargle as mentioned in previous cases. The case made a rapid recovery, and was dismissed on the tenth day.

The other four children were placed on protonuclein tablets *as a prophylactic*, and although they were in daily communication with the invalid, none were in the least affected.

W. J., age twelve. Rapid pulse, temperature 105°, membrane on both tonsils and covering entire fauces; breathing very difficult. Gave him hypodermatic injections of protonuclein every two hours, and applied the "Special" by insufflation; other remedies only to control nervous symptoms. The next day found he had passed a good night, breathing easier, temperature 101°, pulse 100. Fourth day, pulse 99, temperature $99\frac{4}{10}$°, membrane loosened and came away in large pieces. On the sixth day all signs of the membrane had disappeared; temperature was normal. This patient made a rapid recovery.

I have also used protonuclein successfully in typhoid fever, tonsillitis, and in the treatment of old ulcers.

W. W. Dear, M. D.

Crab Bottom, Va., January 29, 1896.

Medical Journal Exchange List.

Charles Wood Fassett, St. Joseph, Mo., Secretary of the American Medical Publishers' Association, has just issued a revised edition of the "Medical Journal Exchange List," containing the names and addresses of all publications in the United States and Canada, devoted to medicine, surgery, pharmacy, hygiene, microscopy, and allied sciences. This list is printed upon adhesive paper, and is used extensively by publishers in mailing their exchanges, as well as by scientific writers in sending out reprints, etc. Price $1.25 per dozen complete sheets. (Furnished free to members of the Association.)

Proceedings of Societies, Boards, etc.

MEDICAL AND SURGICAL SOCIETY OF THE DISTRICT OF COLUMBIA.

Meeting February 10, 1896.

Dr. Bovee read a paper on

Vaginal Fixation of the Uterus. [See page 1262.]

Dr. I. S. Stone said he regretted that he must take issue with some of the views expressed by the essayist. The operation alluded to was needed to overcome a very common and a very annoying disability, namely, retroversion of the uterus. It was hoped that its inventors had succeeded in establishing a procedure which would do away with pessaries and abdominal or other operations intended to hold the fundus uteri forward. But he was obliged to say that enough difficult labors had resulted from the cicatricial adhesions necessarily resulting from the operation to cause its almost entire abandonment even by its originators. Dr. Stone then read a clipping from the *Maryland Medical Journal*, a translation from a German medical weekly, showing that Mackenrodt and others had decided not to continue the operation of vagino-fixation of the uterus.

Dr. Chamberlin read a paper on

Treatment of Tuberculosis with Anti-Tubercle Serum.
[See page 1266.]

Dr. J. D. Morgan said: Dr. Chamberlin is certainly to be commended for his zeal and energy in carrying out the treatment with anti-tubercle serum. He is the first, so he believed, to use this sero-therapy in Washington city. He is, however, disposed to be a little too enthusiastic in his claims for this mode of treatment, considering that his cases number but fifteen, whereas others, who count their cases and treatments by the thousands, are disposed to limit, to a greater extent, the efficacy of these injections.

All are agreed that in acute cases of tuberculosis the remedy is at its best, and Loeb has had good results in laryngeal tuberculosis. The remedy also seemed to promise good results in surgical tuberculosis. Hæmoptysis or high fever does not seem to be a contra-indication.

Should like the essayist to explain more fully the difference between the strong and the weak serum.

Dr. Kober said that whilst he was a firm believer in the efficacy of antitoxins, we ought not to expect too much from this method of treatment at present, especially not in diseases where, in addition to the specific organisms, we are

also confronted with the presence of septic germs in the form of staphylococci and streptococci, which are liable to produce a train of local and general symptoms, and over which the anti-tuberculous serum cannot exert a specific influence. It is for this reason, no doubt, that this method has so far proved of benefit only in the first stages of pulmonary tuberculosis before there has been destructive inflammation; in brief, before the pyogenic germs have gained a foothold. At all events, this appears to have been the experience of Maragliano and other experimenters. Dr. Kober stated that there was reason to hope that sooner or later antitoxins for the pyogenic organisms would be successfully employed, but until then, and in any event, we should not underrate the hygienic management of tuberculous patients; he considered fresh air, a good appetite, and a light but nutritious food, excellent remedies in this disease, and if we cannot send our patients to a suitable health resort, we could at least direct judicious exercise in the open air, and improve their digestion by suitable tonics, instead of impairing it by opiates and over-medication; he considered pure air and sunshine, improved digestion, and assimilation, of primary importance; with them, came increased nutrition of the cell elements of the body, and as the disease was a struggle between these and the microbial invaders, the final result was simply a question of the survival of the strongest cell, and he preferred to fortify the system by meeting these indications. Since the cells without exception contain a greater or less amount of fat, it being in connection with albumen the principal constituent of the nervous tissue, and as fat was also essential in the system for the generation of heat and energy, he believed cod liver oil and milk should be important elements of the diet.

He believed the susceptibility or vulnerability of the system must be overcome, the soil must be changed, before we can hope to confer immunity from a subsequent invasion. Since the bacillus of tuberculosis is ubiquitous, there was nothing to prevent re-infection of a susceptible subject. If anti-tuberculous serum would not only destroy the microbial invader, but also the vulnerable soil, its mission would indeed be a far-reaching one. Until this was demonstrated, we should remember that this predisposition may be overcome, in a very large number of cases, by improving the tone and general nutrition of the system, and that tonics, a nourishing diet, careful and methodical exercise in the open air, plenty of sunlight, attention to the skin, sanitary clothing and houses, will prove of special value.

Book Notices.

Syphilis in the Middle Ages and in Modern Times. By DR. F. BURET, Paris, France. *Translated from the French, with Notes,* by A. H. OHMANN-DUMESNIL, M. D., Professor of Dermatology and Syphilology in Marion Sims College of Medicine, St. Louis, etc., etc. Being *Volumes II and III* of "Syphilis To-Day and Among the Ancients," complete in three volumes. 12mo. 300 pages. Extra Cloth, $1.50 net. Philadelphia: The F. A. Davis Co., Publishers.

This No. 15 in the "Physicians' and Students' Ready Reference Series," is a history of the literature of syphilis, which establishes beyond doubt that syphilis has existed from the remotest antiquity. While it may be said that this is a practical, progressive day, in which little concern is felt in what has been, there are few indeed who are not interested in the history of syphilis. Dr. Buret shows conclusively that epidemics and endemics of this venereal disease prevailed in Europe long before the discovery of America, and that an epidemic of it was raging in Europe just before Columbus made a start from his native shore—thus relieving America of the odium of being the original home of syphilis. No less interesting is the chronological tracing of the methods adopted for the cure of this disease—bringing the subject down to the present decade. Dr. Buret gives to his subject the interest of a novel, and all his exactness of expression has been faithfully reproduced by the American translator.

Hand-book of Obstetric Nursing. By ANNA M. FULLERTON, M. D., Clinical Professor of Gynæcology in the Woman's Medical College of Pennsylvania, etc. *Fourth Revised Edition. Illustrated.* Philadelphia: P. Blakiston, Son & Co. 1895. 12mo. Pp. 254. Cloth, $1. (For sale by The J. W. Randolph Co., Richmond, Va.)

This is an excellent book—good instruction, well stated. Such a book should be thoroughly studied by every nurse who undertakes obstetric cases. Nothing officious is recommended, but what may be demanded in an emergency is clearly taught. The illustrations scattered through the book are great helps to an understanding of the details. The index is quite thorough, and such is always valuable in a book of this kind. This *Hand-book* recommends itself; it is necessary only to examine it to appreciate its value. It may well be adopted as the text-book in training schools for obstetric nursing.

Text-Book Upon the Pathogenic Bacteria. By JOSEPH McFARLAND, M. D., Demonstrator of Pathological Histology, and Lecturer on Bacteriology, Medical Department of University of Pennsylvania, etc. *With 113 Illustrations.* Philadelphia: W. B. Saunders. 1896. Small 8vo. Pp. 359. Cloth. $2.50 net.

The time has arrived for just such a book as this, that collects and presents with clearness of picture and of text the existing practical knowledge of the pathogenic bacteria. Questions that relate to immunity and susceptibility, of sterilization and disinfection, are all discussed plainly in the full light of to day. Descriptions of the methods of cultivation of bacteria are clearly made; and the methods of making bacteriological examinations of air, water, and soil, are well told. Part II is taken up with consideration of the bacteria of the acute inflammatory and chronic inflammatory diseases; of the toxic diseases, and of the septic diseases. Designed as a text-book for students of medicine *and physicians*, we regret that the author did not extend his work to the consideration of the germs of malaria, of amœbic dysentery, and some of the so-called non-pathogenic bacteria that are often enough found in association with diseased conditions to make them appear to have a causative relation. But with reference to recognized pathogenic bacteria, we find this an admirable book for the student and practitioner. We wish we had the space to spare to the excellent chapter on tuberculin as a specimen of the work.

Johns Hopkins Hospital Reports. VOLUME V. (Contents: *Malarial Fevers of Baltimore*, 215 pages; *Study of Some Fatal Cases of Malaria*, 60 pages; *Studies in Typhoid Fever*, 200 pages.) 4to. Pp. 487. Paper. Baltimore: The Johns Hopkins Press. 1895.

The value of these *Reports* is that they are presumably accurately prepared—under the authorship of the eminent teachers in the Hospital. With reference to malarial fever, Drs. Thayer and Hewetson believe they have recognized certain distinct types of parasites which appear to be related in turn to certain almost equally characteristic types of fever. The studies of typhoid fever are confirmatory of a great deal of commonly accepted views; but, in addition, a number of points are brought out which give to this publication a special value. These Reports, of course, become authority for all future. We are sorry we have room only to make this acknowledgment of the receipt of the Volume, which becomes valuable in any medical library.

Guide to the Practical Examination of Urine. By JAMES TYSON, M. D., Professor of Clinical Medicine in University of Pennsylvania, etc. *Ninth Edition. Revised and Corrected. With a Colored Plate and Wood Engravings.* Philadelphia: P. Blakiston, Son & Co. 1895. Cloth. 12mo. Pp. 276. (For sale by The J. W. Randolph Co., Richmond. Price, $1.25.)

The first edition of this practical hand-book was issued in 1875. The popularity of the work is shown by the fact that a new edition has been demanded on an average of a little more than every two years. Each edition has been improved upon until now we have as nearly a perfect guide-book as we could expect. Beside the excellent chemical and microscopical descriptions of the urine, we find a most valuable chapter in that one devoted to the differential diagnosis of renal diseases. The book is good as a student's text, for laboratory examinations, and for the instruction of the practitioner. What is recommended as to methods and tests is practical, and valuable in every day professional life.

Twentieth Century Practice. An International Encyclopædia of Modern Medical Science. By LEADING AUTHORITIES OF EUROPE AND AMERICA. Edited by THOMAS L. STEDMAN, M. D., New York City. *In Twenty Volumes.* VOLUME VI. "*Diseases of the Respiratory Organs.*" New York: Wm. Wood & Co. 1895. Large 8vo. Pp. 750.

The Publishers announce that unforeseen circumstances cause them to issue Volume VI now instead of Volume V, which, however, will be soon published. The Volume under notice is, in general, of most interest to the specialist who treats diseases of the nose, naso-pharynx, pharynx, ear, tonsils, larynx, and trachea. But large sections are given to the consideration of bronchial and pulmonary troubles, for which the general practitioner is most frequently called. The subjects in these sections are well presented, and the best of the latest views and practices are given. With reference to the affections of the upper air-passages, discussed by that eminent specialist, Dr. F. H. Bosworth, we should remark that he has treated the subjects from the standpoint of the general practitioner rather than from that of the specialist. Wherever needed, illustrations are freely inserted. The general excellence of this Volume is in keeping with that of the Volumes already issued, and foretells the value of the Volumes to follow. The Index is very full, which assists in ready references to subjects dealt with. Volume V is to treat of diseases of the skin. Although we recognize that the price for the entire set of 20 volumes ($100), is beyond the reach of the purse of many doctors, still, if

they were to subscribe now, and pay $5 each three months, a number of practitioners would be enabled to provide for themselves a growing and an ever useful library worth a great deal more to them.

Principles of Bacteriology. By A. C. ABBOTT, M. D., First Assistant Laboratory of Hygiene, University of Pennsylvania, etc. *Third Edition, Enlarged and Thoroughly Revised, with 98 Illustrations, of which 17 are Colored.* Philadelphia: Lea Brothers & Co. 1895. Small 8vo. Cloth. Pp. 493. $2.75.

The first edition was issued practically in 1893; in 1894, a second edition was called for, and now the third. Each edition has grown in size and introduction of material. It is the text book in several colleges, and the recognized authority among practitioners in this country. These facts attest the estimation placed on the work by practitioners and teachers. The author knows how to present his subjects clearly, while he illustrates the text abundantly. The volume has twenty-eight chapters, describing methods and bacteria, with an appendix stating the apparatus necessary in a beginner's bacteriological laboratory. In short, the work is complete in every detail so far as a text-book on bacteriology can be expected to be so. It is a cheap book at $2.75. But another edition, we are afraid, will compel the enlargement of the volume in order to include the material specially rapidly accumulating in laboratory records.

Dr. King's Medical Prescriptions. By JOHN H. KING, M. D. *Second Edition.* New York: Bailey & Fairchild Company. 1896. Cloth. 8vo. Pp. 346.

We scarcely know what to say about such a book as this. It contains a great many of "the favorite formulas of the most eminent medical authorities collected from their published writings." So that the practitioner who wades through the book will perhaps find much that is serviceable. But when such a book is placed in the hands of the layman or granny, we cannot feel safe lest more harm than good will result. For instance, look at the "Cure for Diphtheria," on page 84, or "Diphtheria's Natural Remedy," on the next page. They are too ridiculous to deserve other comment in this day, and show upon their face that the parties recommending them are too ignorant to recognize a genuine case of diphtheria. This book keeps one reminded that "a *little learning* is a *dangerous* thing." We regret that the publishing company which issues this book should have published it as a *medical* book at all, and look for the endorsement of the medical profession.

Editorial.

The "Medical Monthly" no More; but the Virginia Medical Semi-Monthly.

A mixed feeling of regret and of encouragement fills us as we pen these last words for the *Virginia Medical Monthly*, and announce the commencement of the VIRGINIA MEDICAL SEMI-MONTHLY in April. The change is in response to the demand of the times, which calls for publication oftener than once a month. Twenty-two years ago, this journal was begun by the present Editor and Proprietor to succeed the *Virginia Clinical Record*, and, without a single intermission, he has supervised the publication of every number. This is a long continuous experience as an editor. While he lays no claim to graduation as the result of such experience, it has been gratifying to receive the many evidences of professional approval of his efforts to advance the cause of medical journalism. Begun to supply what appeared at the time to be a want of the profession of his State, the *Virginia Medical Monthly* gradually attracted to its pages men eminent in the profession throughout the country—many of whom, though sleeping the sleep that knows no waking, have left records of great discoveries and advances, which will ever shine brilliantly in the annals of medical history. The valuable contributions to this journal by such illustrious authors as Sims, Campbell, Battey, Cabell, Porcher, Joseph Jones, and hosts of others—not to refer to living authors—brought to its support subscriptions from all parts of the country, and established it as among the representative medical journals of the South especially. This distinction it has maintained; and it is believed that with the arrangements made for the future, the *Virginia Medical Semi-Monthly* will steadily grow in influence for the promotion of the true interests of the profession of medicine.

The issue of this final number of the *Monthly* has been delayed because of the preparation of the Index for annual Volume XXII. But finding that further delay would be required if we waited for its completion, we have decided to go to press with this March number, and publish the Index to this now finished Volume with the first issue of the *Virginia Medical Semi-Monthly*, advertisement of which may be seen by referring to advertising page 34.

An Act to Regulate the Practice of Veterinary Medicine and Surgery in the State of Virginia.

1. Be it enacted by the General Assembly of Virginia, That from and after the first day of May, 1896, the following persons, and no others, shall be permitted to practice veterinary medicine or surgery in this State: *First.* All persons who, prior to the first day of May, 1896, are practicing veterinary medicine or surgery in this State: provided, that before the first day of November, 1896, they shall apply in writing to the State Board of Veterinary Examiners created by this act and furnish satisfactory proof that they have been in practice in this State prior to the first day of May, 1896. The State Board of Veterinary Examiners shall thereupon issue to such person a certificate, without fee, allowing them to continue in practice without having to undergo an examination as provided by section 7 of this act. *Second.* All persons who shall hereafter receive certificates from the State Board of Veterinary Examiners of this State as provided by section 7 of this act, and who shall also in all other respects have complied with the provisions of the same.

2. All persons who begin the practice of veterinary medicine or surgery in this State on or after the first day of May, 1896, and all persons who neglect to comply with the requirements of the first clause of section 1 of this act, shall comply with the provisions of section 7 before a certificate to practice shall be issued to them.

3. Any person shall be regarded as practicing veterinary medicine or surgery within the meaning of this act who shall profess publicly to be a veterinary surgeon and offer for practice as such, or who shall prescribe for sick domestic animals, or for domestic animals needing medical or surgical aid, and shall charge and receive therefor money or other compensation, directly or indirectly. But nothing in this act shall apply to residents of this State who confine their practice to the castration and spaying of live stock, nor shall it prevent any person from prescribing for live stock who does not claim to be a veterinarian or veterinary surgeon.

4. There shall be for this State a State Board of Veterinary Examiners, consisting of five members, whose term of office shall be four years, or until their successors are appointed and qualified. The term of office of the Board first

appointed after this act takes effect shall commence on the first day of May, 1896.

5. The said Board shall consist of men learned in veterinary medicine and surgery, and shall be appointed by the Governor on or before the first day of May, 1896, and every fourth year thereafter, from a list of ten names to be recommended by the Virginia State Veterinary Medical Association every four years. Vacancies occurring in such Board for unexpired terms shall be filled by the Governor by selection from the five names not appointed from the ten last recommended by the Association. Such recommendation shall be by vote of a majority present at some meeting of the said Association, and shall be certified to the Governor by the President and Secretary of said Association: provided, if said Association fail to make such recommendations prior to the time of appointment, the Governor shall appoint such Board, either in whole or in part, without regard to such recommendations. If any of said examiners shall cease to reside in the State, his office shall be deemed vacant.

6. The members of said Board shall qualify by taking the usual oath of office before the County or Corporation Court of the county or corporation in which they respectively reside, or before the judge of such court in vacation. The officers of said Board shall be a President, Vice-President, and Secretary (who shall also act as Treasurer), said officers to be members of and selected by the Board. Regular meetings of the Board shall be held at such times and places as the Board may prescribe, and special meetings may be held upon the call of the President and any two members, but there shall not be less than one regular meeting each year. Three members of the Board shall constitute a quorum. The Board may prescribe rules, regulations, and by-laws for its own proceedings and government, and for the examination by its members of candidates for the practice of veterinary medicine and surgery.

7. It shall be the duty of said Board, at any of its meetings, to examine all persons making application to them who shall desire to commence the practice of veterinary medicine or surgery in this State, and who shall not, by the provisions of this act, be exempt from such examination; and when an applicant shall have passed an examination satisfactory as to efficiency before the Board in session, the President thereof shall grant to such applicant a certificate to that effect. A fee of five dollars shall be paid to said

Board, through such officers or members as it may designate, by each applicant before such examination is held. In case any applicant shall fail to pass a satisfactory examination, he shall not be permitted to stand any further examination within the next six months thereafter, or until the next meeting of said Board, nor shall he have again to pay the fee prescribed as aforesaid: provided, however, no applicant shall be rejected upon his examination on account of his adherence to any particular school of medicine or system of practice, nor on account of his views as to the method of treatment and cure of disease: and provided, further, that when, in the opinion of the President of the Board, any applicant has been prevented by good cause from appearing before the Board, the President of the Board shall appoint a committee of three members who shall examine such applicant, and may, if they see fit, grant him a certificate, which shall have the same force and effect as though granted him by the full Board.

8. The fund realized from the fees aforesaid shall be applied by the Board to the payment of its expenses and to making a reasonable compensation to the President and Secretary.

9. The Secretary of the State Board of Veterinary Examiners shall record in a book to be kept for such purpose the names of all practitioners of veterinary medicine or surgery in this State to whom certificates are issued allowing them to practice as provided for in this act. Said book shall be styled and recognized as the register of the practitioners of veterinary medicine and surgery in Virginia, and it shall be admissible in evidence. Said register shall be accurately kept by the Secretary of said Board, who shall at any time during business hours allow it to be inspected in his presence by any person interested, either at his office or at any meeting of the State Board of Veterinary Examiners. Said Secretary shall insert in said register any alteration in the name or address of any registered person which may come to his knowledge, and he shall also record the decease of any registered person as soon as he receives satisfactory proof thereof.

10. Any person who shall practice veterinary medicine or surgery in this State in violation of the provisions of this act, shall be fined not less than fifty nor more than five hundred dollars for each offence, and it shall not be lawful for him to recover by action, suit, motion, or warrant any compensation for services which may be claimed to have been

rendered by him as such practitioner of veterinary medicine or surgery.

11. This act shall be in force from and after the first day of May, 1896.

National Confederation of State Medical Examining and Licensing Boards.

The Fifth Annual Meeting of this organization will be held in Room No. 1, Hotel Aragon, Atlanta, Ga., May 4th, 1896, at 10 o'clock A. M. The preliminary program for the meeting has been received, and its scope indicates the discussion of subjects of great interest to all engaged in the important work of carrying the mission of Examining Boards to the highest possible plane. Members and ex-members of Examining Boards are urgently invited to attend this meeting and take part in the discussions. An interchange of thought and experiences in the different States cannot fail to be mutually beneficial. For half a century, the profession of America has implored for an extended course of study and a higher standard for graduation in the American schools. No one factor has contributed so directly towards securing this end as the work of State Examining Boards. As stated in the program, the objects of this conference are to discuss questions that pertain to State licensing with a view to a comparison and the improvement of methods, a collection and dissemination of information on the subject, and to consider any and all propositions that have for their object the advancement of the standard of medical education in the United States.

Dr. Chas. McIntire, of Pennsylvania, will read a paper on "Some Obstacles to an Inter-State Recognition of a State License to Practice Medicine, with Suggestions for their Removal."

Dr. Jas. M. Mathews, of Louisville, Ky., and Dr. Wm. L. Foster, of Pittsburg, Pa., will also read papers.

The officers for 1896 are—*President*, Dr. William Warren Potter, of New York; *Vice-President*, Dr. Jas. Mackintosh Hays, of North Carolina; *Secretary and Treasurer*, Benj. M. Griffith, of Illinois.

Executive Council—Dr. Hugh M. Taylor, of Virginia; Dr. Henry H. Millard, of Minnesota; Dr. Jas. M. Mathews, of Kentucky; Dr. Wm. L. Foster, of Pennsylvania.

The Committee begs all who are interested in the mission of Boards to attend, especially members and ex-members of State Boards.

The Chicago Polyclinic

Is doing excellent work for the post-graduate. It is adopting special courses of a few weeks each for the practitioner in special departments, which are being duly announced. So that the doctor who is especially interested in any particular line of study or practice can note the changing advertisements with advantage to himself. Such a polyclinic is exactly what the doctor wants.

Seven-Springs Iron-Alum Mass in Diabetes Mellitus.

At a recent meeting of the Richmond Academy of Medicine and Surgery (January 21, 1896), Dr. Ramon D. Garcin reported a case of diabetes mellitus under observation which was apparently getting well under the use of Seven-Springs Iron-Alum Mass. Dr. Landon B. Edwards, at the same meeting, reported a case, seen also by Dr. Edward McGuire, in which all signs of diabetic sugar had disappeared from the urine, with complete relief of other signs and symptoms, as the result of the use of the same Mass for several weeks in about eight-grain doses three times daily.

The Virginia State Board of Health,

It is hoped, has at length secured a law, enacted by the Legislature just adjourned, which may be the beginning of its future usefulness. Its first meeting under the new law will be in Richmond, March 17th—called by the President, Dr. Rawley W. Martin, of Lynchburg, Va. While the law is by no means perfect, and the allowance for its expenses, etc., entirely too small to enable it to make many desirable reforms, it is believed that initiatory work will be undertaken which will prove of service to the people and profession.

Prostatic Extract.

Dr. Hunter McGuire is making an experiment with the extract of the prostatic gland of the sheep in the treatment of prostatic hypertrophy. Fairchild Bros. & Foster have made this extract for Dr. McGuire, and have put it up in the form of nicely-prepared tablets. One is taken four or five times a day. Any friend of Dr. McGuire, who has a case of prostatic hypertrophy, with its consequent obstruction and cystitis, will be furnished with a number of these tablets, if he is willing to use them, and report the results.

VOL. XXII. [Whole Number, 254.] No. 2

RICHMOND, MAY, 1895.

VIRGINIA MEDICAL MONTHLY,

LANDON B. EDWARDS, M. D.,

EDITOR AND PROPRIETOR.

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Cerebral Syphilis. By HENRY ALFRED ROBBINS, M. D., of Washington, D. C. 187

ART. II.—The History of Medicine and Surgery in Georgia. By LUTHER B. GRANDY, M. D., Atlanta, Ga 150

ART. III.—Public Hygiene in the Light of Recent Observations and Experiments. By JOHN P. WALL, M. D., of Tampa, Florida 161

ART. IV.—Twenty Cases of Supra-Vaginal Hysterectomy for Large Tumors. By I. S. STONE, M. D., of Washington, D. C 177

ART. V.—Remarks Suggested by the Enquiry: "Is Malarial Fever a Reflex-Neurosis?"—Reminiscences—A Word for Quiniæ Sulphate. By WILLIAM S. STOAKLEY, M. D., Millboro Springs, Va 183

ART VI.—Cataract Extraction—Results and After-Treatment of, as Exemplified by Cases Operated on During the Meeting of the Medical Society of Virginia. Also Operations for Tarsal Cyst, Pterygium and Ectropion. By JOSEPH A. WHITE, A. M., M. D., Richmond, Va. 188

ART. VII.—Wounds of the Eye and Their Treatment. By T. EMMERSON MITCHELL, M. D., of Columbus, Ga 192

ART. VIII.—The Walking Treatment of Women After Confinement—Something New. By R. J. NUNN, M. D., of Savannah, Ga 199

ART. IX.—Double Athetosis—Report of Two Cases. By WILLIAM F. DREWRY, M. D, of Petersburg, Va 201

CLINICAL REPORTS:

Case I.—Passage of Hard, Non-Fusible Phosphate of Lime Calculus from Bladder. Case II.—Polyuria Due to Tubercular Peritonitis. By WILLIAM S. GORDON, M. D., Richmond, Va 208

Case of Endothelial Sarcomata of Vermiform Appendix. By LARKIN W. GLAZEBROOK, M. D., of Washington, D. C 211

DEPARTMENT OF EYE, EAR, THROAT AND NOSE. Conducted by JOHN DUNN, M. A., M. D., of Richmond, Va 212

DEPARTMENT OF SKIN, VENEREAL AND GENITO-URINARY DISEASES. Conducted by BERNARD WOLFF, M. D., of Atlanta, Ga 222

DEPARTMENT OF ELECTRO-THERAPEUTICS. Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va 227

ANALYSES, SELECTIONS, ETC 233

BOOK NOTICES 236

EDITORIAL 244

OBITUARY RECORD 248

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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The Success of Peptogenic Milk Powder

In the feeding of sick babies has led many mothers to infer that the Peptogenic Milk Powder is especially designed for sick babies.

On the contrary, however, the Peptogenic Milk Powder is peculiarly designed for the preparation of the exclusive food of an infant during the entire nursing period. The milk prepared with the Peptogenic Milk Powder has the digestibility of mothers' milk, and is thus obviously the proper food for the healthy infant and the most robust infant. It is a pity to deprive a good healthy infant of the benefits of such a food by relying upon it only for the rescue of infants of naturally feeble digestion, or infants who have been made ill by the use of unsuitable foods.

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VIRGINIA MEDICAL MONTHLY,

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EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Non-Infectious Membranous Laryngitis or Membranous Croup—Its Prevention and Medical Treatment. By BEDFORD BROWN, M. D., of Alexandria, Va. 249

ART. II.—Appendicitis. By I. S. STONE, M. D., Washington, D. C 261

ART. III.—Clinical Lecture on Hernia. By W. B. DEGARMO, M. D., New York, N. Y. 266

ART. IV.—Quacks and Quackery. By A. B. RAMSEY, M. D., McMinnville, Tenn. 271

ART. V.—Remarks on Sterilization of Milk. By WM. P. CARR, M. D., of Washington, D. C 281

ART. VI.—Mind and Body. By CHARLES S. WEBB, Ph. B., M. D., Atlanta, Ga. 285

ART. VII.—Notes on a Case of Round Celled Sarcoma, Treated by Erysipelas and Prodigiosus Toxines, after Excision. By F. T. Chamberlin, M. D , Washington, D. C. 290

ART. VIII.—Chaparro Amargoso in the Treatment of Chronic Dysentery. By WILLIAM J. CRITTENDEN, M. D., Unionville, Va. 294

ART. IX.—A Case of Puerperal Sepsis—Illustrating the Advantages of Local Treatment. By WM. S. GORDON, M. D., of Richmond, Va. 296

CLINICAL REPORTS 299

CORRESPONDENCE 313

DEPARTMENT OF EYE, EAR, THROAT AND NOSE. Conducted by JOHN DUNN, M. A., M. D., of Richmond, Va. 314

DEPARTMENT OF GENERAL SURGERY. Conducted by STUART MCGUIRE, M. D., of Richmond, Va 323

DEPARTMENT OF SKIN, VENEREAL AND GENITO-URINARY DISEASES. Conducted by BERNARD WOLFF, M. D., of Atlanta, Ga. 331

DEPARTMENT OF ELECTRO-THERAPEUTICS. Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va. 336

PROCEEDINGS OF SOCIETIES, BOARDS, ETC. 340

ANALYSES, SELECTIONS, ETC. 355

BOOK NOTICES 357

EDITORIAL 359

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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VIRGINIA MEDICAL MONTHLY,

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EDITOR AND PROPRIETOR.

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COLLEGE OF PHYSICIANS LIBRARY. JUL 8 1895 OF PHILADELPHIA

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Therapeutics of Diphtheria—Including Hospital Experience with Antitoxin. By ERNEST C. LEVY, M. D., of Richmond, Va. 361

ART. II.—Some Exceptional Features in Cataract Extraction. By SWAN M. BURNETT, M. D., Ph. D., of Washington, D. C. 376

ART. III.—Conditions Which Influence Health and Longevity. By C. F. MARSH, M. D., Pensacola, Fla. 384

ART. IV.—Blood-Letting in Asthma, Heart Disease, Puerperal Eclampsia, Pneumonia, etc. By WM. HOLLADAY, M. D., Hampden Sidney, Va. 389

ART. V.—Treatment of Gonorrhœal Rheumatism. By J. L. A. BUECHLER, M. D., St. Louis, Mo. 392

ART. VI.—Mental Suggestion as an Aid in the Treatment of Morphinomania. By SAMUEL H. GREEN, M. D., Oakdale, Ga. 393

ART. VII.—Plural Pregnancy, Involving a Question as to Sire. By W. H. HARBAUGH, V. S., Richmond, Va. 398

ART. VIII.—Diphtheria and Post-Typhoid Diphtheria. By S. LUNT HANNON, M. D, of Washington, D. C. 410

CLINICAL REPORTS:

Case of Treatment of Venomous Snake Bites. By ALVAH STONE, M. D., Worth, W. Va. 417

Anchylosis Following Typhoid Fever. By J. EDWARD COX, M. D., Richmond, Va. 418

CORRESPONDENCE 420

DEPARTMENT OF EYE, EAR, THROAT AND NOSE. Conducted by JOHN DUNN, M. A., M. D., of Richmond, Va. 424

DEPARTMENT OF ELECTRO-THERAPEUTICS. Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va. 434

PROCEEDINGS OF SOCIETIES, BOARDS, ETC. 437

ANALYSES, SELECTIONS, ETC. 447

BOOK NOTICES 456

EDITORIAL 461

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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RICHMOND, AUGUST, 1895.

VIRGINIA MEDICAL MONTHLY,

LANDON B. EDWARDS, M. D.,
EDITOR AND PROPRIETOR.

AUG 13 1895

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Concerning the Treatment of Long-Standing Cases of Empyema of the Maxillary Antrum and Frontal Sinus—A Plea for a Large Opening and Dry Treatment. By JOHN DUNN, M. A., M. D., of Richmond, Va. 465

ART. II.—Electricity versus Old Methods in Female Pelvic Disorders. By F. B. BISHOP, M. D., Washington, D. C. 470

ART. III.—Galvanism in Office Practice. By J. C. LEHARDY, M. D., of Savannah, Ga. 477

ART. IV.—Recovery of a Case of Progressive Spastic Ataxia Associated with Multiple Neuritis. By J. ALLISON HODGES, M. D, of Richmond, Va. 482

ART. V.—Phthisis Laryngis. By JOHNSON ELIOT, M. D., Washington, D. C. 485

ART. VI.—The Outlines of a New and Important Treatment for the Morphine Habit, Based on a Clinical Study of One and Fifty Cases Treated at Sunnyside, Private Hospital for Nervous and Mental Diseases By EDWARD C. MANN, M. D., F. S. S. (London), of New York, N. Y. 490

ART. VII.—The Abuse of Athletics. By W. E. ANTHONY, M. D., Providence, R. I. 494

ART. VIII.—Saw Palmetto and Fluid Extract of Pichi in the Treatment of Membrano-Spasmodic Stricture of the Urethra. By L. A. RUTHERFORD, A. M., M. D., of Lagrange, N. C. 498

ART. IX.—A Plea for a More Detailed Study of the Central Nervous System. By RUSSELL PEMBERTON, M. A., B. S, M. D., of Germantown, Pa. 500

ART. X.—Cholera Infantum. By EDGAR W. ROBERTSON, M. D., of Onancock, Va. 503

CLINICAL REPORTS 511

DEPARTMENT OF EYE, EAR, THROAT AND NOSE. Conducted by JOHN DUNN, M. A., M. D., of Richmond, Va. 515

DEPARTMENT OF SKIN, VENEREAL AND GENITO-URINARY DISEASES. Conducted by BERNARD WOLFF, M. D., of Atlanta, Ga. 520

DEPARTMENT OF ELECTRO-THERAPEUTICS. Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va. 524

PROCEEDINGS OF SOCIETIES, BOARDS, ETC. 530

ANALYSES, SELECTIONS, ETC. 536

BOOK NOTICES ..... 538; EDITORIAL 541

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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VOL. XXII. [Whole Number, 258.] No. 6

RICHMOND, SEPTEMBER, 1895.

VIRGINIA MEDICAL MONTHLY,

LANDON B. EDWARDS, M. D.,

EDITOR AND PROPRIETOR.

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—The Indications for and Technique of Forceps Delivery. By JOHN F. WINN, M. D., of Richmond, Va. 561

ART. II.—Hydramnios, Twins, Miscarriage, Uterine Inertia, Hæmorrhage, Recovery—Remarks. By H. P. WENZEL, M. D., Milwaukee, Wis. 572

ART. III.—Outlines on Tuberculosis of the Lungs. By R. L. HOWARD, M. D, University Station, Charlottesville, Va. 577

ART. IV.—Rigid Os. By D. MAYER, M. D., Charleston, W. Va. 598

ART. V.—Pelvic Inflammation. By J. W. LONG, M. D., Richmond. Va. 601

ART. VI.—A Medico-Legal Study of Delirium Tremens. By T. D. CROTHERS, M. D., of Hartford, Conn. 607

ART. VII.—Cholelithiasis—Anatomy and History. By J. W. HENSON, M. D., of Richmond, Va. 615

ART. VIII.—The Hygiene of Infancy. By S. P. PRESTON, M. D, Lynchburg, Va. 622

CLINICAL REPORTS:

Fibrous Tumors of the Auricle—A Case. By W. L. BULLARD, M. D., of Columbus, Ga. 628

A Case of Bright's Disease in a Child Without Apparent Cause—Death. By F. W. BRIGHAM, M. D., of Shrewsbury, Mass. 629

A Juvenile Case of Stramonium Poisoning. By J. W. PRESTON, M. D., of Keystone, McDowell County, W. Va. 630

DEPARTMENT OF EYE, EAR, THROAT AND NOSE. Conducted by JOHN DUNN, M. A., M. D., of Richmond, Va. 631

DEPARTMENT OF ELECTRO-THERAPEUTICS. Conducted by R. M. SLAUGHTER, M. D., Theological Seminary, Va. 642

ANALYSES, SELECTIONS, ETC. 648

BOOK NOTICES 652

EDITORIAL 656

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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VOL. XXII. [Whole Number, 259.] No. 7

RICHMOND, OCTOBER, 1895.

VIRGINIA MEDICAL MONTHLY,

LANDON B. EDWARDS, M. D.,

EDITOR AND PROPRIETOR.

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Surgical Treatment of Cholelithiasis. By HUGH M. TAYLOR, M. D., Richmond, Va. 665

ART. II,—Words Not Usually Found in Medical Dictionaries. By IRVING C. ROSSE, A. M., M. D, F. R. G. S., Washington, D. C. 673

ART. III.—Some Remarks About Fever, and Natural Conservatism. By WILLIAM S. STOAKLEY, M. D., of Milboro Springs, Va. 680

ART. IV.—Vaginismus, Cystocele, and Rectocele. By E. E. MONTGOMERY, M. D., of Philadelphia, Pa. 686

ART. V.—The Old Virginia Doctor. By JNO. HERBERT CLAIBORNE, M. A., M. D., of Petersburg, Va. 689

ART. VI.—Strychnia as a Heart Tonic in Typhoid Fever. By CHARLES K. KERNAN, M. D., of Lebanon, Va. 697

ART. VII.—A Thesis on the Surgical Anatomy and the Operative Surgery of the Kidney. By RAMON GUITERAS, M. D., of New York, N. Y. 702

ART. VIII.—Abscess of the Liver in Children, with Report of a Case of Amœbic Abscess. By R. M. SLAUGHTER, M. D., Theological Seminary, Va 722

ART. IX.—The Veterinarian as a Sanitarian in Relation to Public Health. By E. P. NILES, D. V. M., Blacksburg, Va. 732

PROCEEDING OF SOCIETIES, BOARDS, ETC.:

Medical Examining Board of Virginia 739
Medical Society of Virginia 747

BOOK NOTICES 777

EDITORIAL 781

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

TERMS Per annum, in Advance, $3.00; Single Copy, 30c.

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VIRGINIA MEDICAL MONTHLY,

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EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—The Diagnosis and Treatment of Cholelithiasis. By GEORGE BEN. JOHNSTON, M. D., of Richmond, Va. 785

ART. II.—The Treatment of Intermittent Fever. By WALTER M. FLEMING, M. D., of New York, N. Y. 795

ART. III.—Introductory Lecture to the Class of 1895-96 of the Baltimore Medical College. By GEORGE REULING, M. D., of Baltimore, Md. 799

ART. IV.—The Pathology and Treatment of Gonorrhœa. By CHARLES M. BLACKFORD, JR., M. D., of Lynchburg, Va. 807

ART. V.—"Meddlesome Midwifery"—A Dangerous Term. By ELLIOT T. BRADY, M. D., of Chatham Hill, Va. 813

ART. VI.—Intestinal Obstruction—Its Classification, Etiology, and Symptomatology. By R. ANGUS NICHOLS, M. D., of Richmond, Va. 815

ART. VII.—The Galvanic Current in the Treatment of Pelvic Pain. By J. ALLISON HODGES, M. D., of Richmond, Va. 827

ART. VIII.—Things we Should Remember in the Application of the Forceps. By ELMER SOTHORON, A. B., M. D., of Washington, D. C. 830

ART. IX.—Remarks on Goitre, with Report of Cures. By JOSEPH A. WHITE, A. M., M. D., of Richmond, Va. 835

ART. X.—Cycling a Cause of Prostatic Disease. By T. A. MCLAUGHLIN, M. D., of Washington, D. C. 842

ART. XI.—Puerperal Sepsis, with Report of a Case—Death. By PAULUS A. IRVING, M. D., of Richmond, Va. 846

ART. XII.—The Uses and Abuses of Opium. By W. H. RIBBLE, JR., M. D., of Wytheville, Va. 855

CLINICAL REPORTS:

Case of Knotted Cord Causing Death of Fœtus 859

CORRESPONDENCE:

Words Not Usually Found in Medical Dictionaries. 860

PROCEEDINGS OF SOCIETIES, BOARDS, ETC.:

Richmond Academy of Medicine and Surgery. 861

Medical and Surgical Society of the District of Columbia 864

ANALYSES, SELECTIONS, ETC. 866

BOOK NOTICES 871

EDITORIAL 881

INDEX OF ADVERTISERS, See Page 57 after Reading Matter.

TERMS Per annum, in Advance, $3.00; Single Copy, 30c.

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VOL. XXII. [Whole Number, 261.] No. 9

RICHMOND, DECEMBER, 1895.

VIRGINIA MEDICAL MONTHLY,

LANDON B. EDWARDS, M. D.,

EDITOR AND PROPRIETOR.

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Seventeen Cases of Chronic (Relapsing) Appendicitis Treated by Operation. By HUNTER MCGUIRE, M. D., LL.D., Richmond, Va., 885

ART. II.—A Long Survival of Injury of the Spinal Cord in the Cervical Region. By JAMES L. KENT, M. D., of Bertha, Va. 903

ART. III.—Hypertrophy of the Lingual Tonsil, with Report of Cases. By J. EDWARD TOMPKINS, B A, M. D., of Fredericksburg, Va 906

ART. IV.—A Review of Dr. Max Bartel's Work, etc. By GEORGE M. KOBER, M. D., of Washington, D. C. 913

ART. V.—Analgesia and Sedation an Essential Adjunct to Treatment. By JOHN J. SULLIVAN, M. D,. of New York, N. Y. 928

ART. VI.—Vesical Calculus in Females. By ZEB. VANCE SHERRILL, M. D., of Bland C. H., Va. 930

ART. VII.—The Surgery of the Prostate Gland. By GEORGE FOY, F. R. C. S. I., Dublin, Ireland. 941

ART. VIII.—Diagnosis and Medical Treatment of Intestinal Obstruction. By R. F. WILLIAMS, M. D., of Richmond, Va. 950

ART. IX.—Case of Ruptured Tubal Pregnancy at Seven Weeks; Laparotomy and Recovery—Remarks. By J. WESLEY BOVEE, M. D., of Washington, D. C. 957

ART. X.—Prolapsus Recti. By LLEWELLYN ELIOT, M. D., Washington, D. C., 960

ART. XI.—Report of Another Case of Puerperal Eclampsia Successfully Treated with Large Doses of Tincture Veratrum Viride—with Remarks. By JEFFERSON SUTTLE DAVIS, M. D., Monteville, Ala., 969

ART. XII.—Some Suggestions as to the Etiology and Treatment of Tuberculosis. By JAMES M. PINKSTON, M. D., of Paducah, Ky. 974

ART. XIII.—Static Electricity in Functional Nervous Diseases. By FRANCIS B. BISHOP, M. D., of Washington, D. C 978

PROCEEDINGS OF SOCIETIES, BOARDS, ETC.:

Medical and Surgical Society of the District of Columbia 982

Southern Surgical and Gynæcological Association 986

BOOK NOTICES 992

EDITORIAL 994

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

TERMS Per annum, in Advance, $3.00; Single Copy, 30c

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RICHMOND, JANUARY, 1896.

VIRGINIA MEDICAL MONTHLY,

LANDON B. EDWARDS, M. D.,

EDITOR AND PROPRIETOR.

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Commitment of the Insane in the Southern States. By WILLIAM FRANCIS DREWRY, M. D., of Petersburg, Va 1001

ART. II.—Battey's Operation. By JOSEPH TABER JOHNSON, M. D., Washington, D. C. 1012

ART. III.—Clinical Lecture—(I) Strangulated Umbilical Hernia—Resection of Intestines, etc.—Murphy Button—Recovery. (II) Large and Old Epithelioma of Forehead—Thermo-Cautery. (III) Pott's Disease of the Spine—Cold Abscess—Iodoform Injected. (IV) Vesical Calculus—Bigelow Lithotrity. (V) Varicocele—Bennett-Henry Method—Successful. By STUART MCGUIRE, M. D., of Richmond, Va. 1022

ART. IV.—Notes on an Epidemic of Enteric Fever Among Children. By A. K. BOND, M. D., of Baltimore, Md. 1027

ART. V.—The Importance of a Microscopic Examination of Blood in Disease—Lobar Pneumonia in Illustration. By ARTHUR JORDAN, M. D., D. D. S, Richmond, Va. 1037

ART. VI.—Anæsthesia as Produced by Schleich, of Berlin. By GEORGE TULLY VAUGHAN, M. D., Philadelphia, Pa. 1045

ART. VII.—Epileptic Colonization. By S. P. PRESTON, A. M., M. D., of Lynchburg, Va. 1047

ART. VIII.—Post-Operative Intestinal Obstruction. By HUGH M. TAYLOR, M. D., Richmond, Va. 1051

ART. IX.—Comparative Cost of Construction of New York Insane Hospitals and Western State Hospital, Staunton, Va. By BENJAMIN BLACKFORD, M D,, Staunton, Va 1063

ART. X.—Two Curious Cases. (I). Eczema (?) (II). Descended Third Testicle (?) By GEORGE WOODSON SCOTT, M. D, Madison Run, Va. 1067

ART. XI.—Rational Treatment of Acute Malarial Poisoning—A Plea for Abandonment of the Abuse of Mercury. By N. L. GUICE, M. D., of Meridian, Mississippi. 1070

ART. XII.—An Apparatus for Chloroform Oxygen Anæsthesia. By LLEWELLYN ELIOT, M. D., Washington, D. C. 1083

ART. XIII.—Some of the Dangers of "Trendelenburg's Posture." By ALEXANDER IRVINE, M. D., Evington, Va. 1086

BOOK NOTICES ..... 1088; OBITUARY RECORD 1095

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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VOL. XXII. [Whole Number, 263.] No. 11

RICHMOND, FEBRUARY, 1896.

VIRGINIA MEDICAL MONTHLY,

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EDITOR AND PROPRIETOR.

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Hydrophobia—Is it a Specific Disease? By WILLIAM T. WALKER, M. D., Lynchburg, Va. 1097

ART. II.—Some Common Diseases Observed North of the Arctic Circle. By JOHN E. WALSH, M. D., of Washington, D. C. 1109

ART. III.—Circumcision. By J. SHELTON HORSLEY, M. D, Staunton, Va. 1119

ART. IV.—An Improved Syringe for Infiltration Anæsthesia. By BRANSFORD LEWIS, M. D, of St. Louis, Mo. 1122

ART. V.—The Germ Theory of Disease. By STUART MCGUIRE, M. D., Richmond, Va. 1124

ART VI.—Case of Gonorrhœal Ophthalmia of Both Eyes, Ulceration of Both Corneæ, Prolapsus Iridis of O. S., with Recovery of Both Eyes. By JAQUELIN A. MONCURE, M. D. 1141

ART. VII.—Some Gynæcological Cases, So-called—Correct Diagnosis and Treatment versus Surgery. By W. M. HOLLADAY, A. B, M. D., Hampden-Sidney, Va. 1144

ART. VIII.—The Endemic Fever of the Eastern Shore. By GEO. W. LECATO, M. D., Wachapreague, Accomac Co., Va. 1148

ART. IX.—Case of Acne Varioliformis—Clinical Lecture. By ARTHUR JORDAN, M. D., D. D. S., of Richmond, Va. 1158

ART. X.—A Critical Review of Modern Operations for Hæmorrhoids. By SAMUEL S. EARLE, M. D., Baltimore, Md. 1160

ART. XI—Nephrorrhaphy—Clinical Notes. By HUGH T. NELSON, M. D., of Charlottesville, Va. 1167

ART. XII.—Two Cases of Suicidal Poisoning.—(I) Carbolic Acid.—(II) Strychnia Sulphate. By JOHN W. SCOTT, M. D., of Gordonsville, Va. 1170

PROCEEDINGS OF SOCIETIES, BOARDS, ETC.:

Virginia State Veterinary Medical Association 1172

Medical and Surgical Society of the District of Columbia 1175

BOOK NOTICES 1177

EDITORIAL 1184

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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EDITOR AND PROPRIETOR.

EDO UT PROSIM.

CONTENTS.

ORIGINAL COMMUNICATIONS:

ART. I.—Hysteria in Children. By J. N. UPSHUR, M. D., of Richmond, Va. 1185

ART. II.—A Few Curious Observations Concerning Small-Pox Patients. By LLEWELLYN ELIOT, M. D. of Washington, D. C. 1192

ART. IV.—Treatment of Suppurative Stage of Tubercular Osteitis of the Hip-Joint. By A. R. SHANDS, M. D., of Washington, D. C. 1197

ART. V.—Bovine Tuberculosis in Relation to Public Health. By W. H. HARBAUGH, V. S., of Richmond, Va. 1204

ART. VI.—A Contribution to the Study of the Treatment of Diphtheria, with Especial Reference to the Use of Antitoxic Serum and Pilocarpine. By E. W. SAUNDERS, M. D., of St. Louis, Mo. 1219

ART. VII.—A Contribution to the Treatment of Diphtheria. By CHARLES G. CANNADAY, M. D., of Roanoke, Va. 1236

ART. VIII.—Lecture before the Training School of Nurses at the Home for the Sick, By JOHN HERBERT CLAIBORNE, A. M., M. D., of Petersburg, Va. 1239

ART. IX.—Appendicitis—Half a Century Ago—Painful Tumor near the Cæcum—(Seven Cases Reported). By E. H. JUDKINS, L. L. B., M. D., of Baltimore, Md. 1249

ART. X.—Vaginal Fixation of the Uterus. By J. WESLEY BOVEE, M. D., of Washington, D. C. 1262

ART. XI.—The Treatment of Tuberculosis with the Anti-Tubercle Serum. By FRANK T. CHAMBERLIN, M. D., of Washington, D. C. 1266

CLINICAL REPORTS:

Report of a Perplexing Case of Typhoid Fever. By WADE H. ATKINSON, M. D., of Washington, D. C. 1270

CORRESPONDENCE:

Protonuclein, both as the Treatment and Prophylactic of Diphtheria 1273

PROCEEDINGS OF SOCIETIES, BOARDS, ETC.:

Medical and Surgical Society of the District of Columbia 1275

BOOK NOTICES 1277

EDITORIAL 1281

INDEX OF ADVERTISERS, See Page 33 after Reading Matter.

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